

Wisconsin 2006 Weatherization Program Manual

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Chapter 1 Definitions

Alien

A person who is not a citizen of the United States. Persons are not ineligible for assistance solely because they are aliens.

Appliance

Any device powered by electricity designed for household use approved by the Division. A typical appliance would be a refrigerator.

Applicant/Case Head

The person whose name is in Item 4 of the Home Energy Plus application form, DOA-9549. Applicant and case head are the same and are used interchangeably for purposes of this manual. A case head must be 18 years or older or a minor head-of-household (see definition). Exception: a dependent child can be a case head only in cases where:

- 1) All adults in the household are ineligible aliens; and
- 2) The dependent child is either a citizen or an eligible alien; and
- 3) Has a Social Security Number.

As Is Blower Door Test

The blower door test completed prior to any work on the building.

Authorized Representative

A person who has signed an Affidavit of Agent and who is listed as the authorized representative on the Authorization of Representative Form.

Baseload Measures

Energy conservation measures that reduce the daily electrical use of the dwelling unit. An example of a baseload measure is the installation of compact fluorescent lighting devices.

Categorical Eligibility

A household with income over 150% of poverty may be eligible for weatherization services, only if the household satisfies either of the categorical eligibility test in C.2. Financial Eligibility of Chapter 4 - Outreach, Client Eligibility and Files.

Comfort Sealing

Sealing work performed when blower door testing cannot be performed. Comfort Sealing work is limited to probable attic bypass and key junctures, glass repair or replacement, and miscellaneous sealing that will affect the occupants comfort.

Completed Measure

A measure that has been installed in accordance with all standards and specifications contained in this manual and/or other program guidance including the Weatherization Field Guide.

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Completed Unit

A dwelling unit that has received all the appropriate weatherization measures required by the measures list or computerized audit. A dwelling unit is not complete until:

- 1) Materials installed by the program, tenant, property owner or volunteer labor have been inspected.
- 2) A non-crew member has performed the final inspection and any work required by the final inspection has been performed.
- 3) The property owner, or owner's authorized representative, has signed the owner sign-off document, or a good faith effort has been made to obtain the sign-off.

Computerized Audit System

The energy audit approved by the Division for use on 1 to 4 unit buildings.

Damaged Materials

Materials that are specifically assigned or designated for a specific dwelling unit/job and are damaged and made unusable either during transit to the job site or at the job site.

Disability

A self declared physical or mental impairment or a designation made by a state or federal program that:

- Substantially limits one or more of a person's major life activities; or
- Results in the person receiving either Veteran's or Social Security disability benefits.

Division

The State of Wisconsin, Department of Administration, Division of Energy.

Dwelling Unit

A structure, including a stationary mobile home, apartment, group of rooms or a single room occupied by a household that has an identifiable site address such as a fire number or street address. A United States Post Office Box number is a mailing address and does not constitute a dwelling unit address.

Economic Unit

A person or group of related or unrelated persons who live together in a dwelling unit and jointly share in providing (or being provided for) the necessities of life for the person(s) in the group. The necessities of life are shelter, heat and utilities. NOTE: Persons living in a cooperative housing arrangement who have their own room and who share common spaces are all part of a single economic unit.

Elderly Person

A person who is 60 years of age or older.

Eligible Dwelling Unit

A dwelling unit occupied (or for rental units will be occupied within 180 days of completion) by an eligible low-income family, that:

- Has not previously been weatherized, or
- Has not been weatherized within the preceding five years for Public Benefits funding, or,
- Was weatherized prior to September 30, 1993 for DOE funding.

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Energy Assistance

The component of WHEAP that provides households with benefits to assist in meeting the cost of home energy.

Energy Audit

An inspection of the dwelling unit that documents its conditions from a thermal, structural, appliance, lighting and safety perspective. This may be based on the Required Measures List or the Division approved software program that generates a list of recommended weatherization measures for the dwelling unit, according to the software program's specifications.

Energy Conservation Measures (ECMs)

The measures installed in a home that return energy cost savings. ECM measures are in contrast with Health and Safety and Repair measures that do not return an energy cost savings benefit.

Final Inspection

The inspection performed on a dwelling unit by a non-crew member. The final inspection follows the completion of on-site work. The final inspection must be performed before the owner can sign off.

Fiscal Audit

Review and/or inspection of any or all fiscal or accounting records or procedures of a local grantee or their subcontracted agencies.

Grantee

The entity under contract with the Division to provide weatherization services to low-income families. Weatherization Program Operator means the same as grantee.

Guideline Sealing

Sealing work completed using the Weatherization Cost Effective Guidelines (WCEG).

Group Homes

Facilities that provide housing for families and individuals, such as community-based care facilities that provide housing for disadvantaged persons, and are eligible when they meet the dwelling unit and separate living quarters requirements.

Heating Costs

Costs of any source of heating in a dwelling unit used for residential heating purposes. All heating costs for commercial, business or any purpose other than the dwelling unit of the applicant are excluded.

Home Energy

All fuel sources used in a dwelling unit. It includes all heating costs and non-heating costs. Non-heating costs are often referred to on utility bills as baseload costs (the base costs before heating costs are included).

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Household

Any person or group of persons living together in a dwelling unit on the application date, who are an economic unit and who directly purchase home energy or make undesignated payments for energy in the form of rent. See also definitions of dwelling unit and economic unit.

Household with a High Energy Burden

A low-income household whose residential energy burden (residential expenditures divided by the annual income of that household) exceeds the median level of energy burden for all low-income households in the State. (Currently there are no tools available for a grantee to determine if a household has a high energy burden so this criteria is no longer required as an intake priority).

Income

All monies received by a household (see Chapter 4).

Infiltration

The uncontrolled air entering the building, usually at the lower portion of the building.

Landlord Contribution

The portion of the cost of weatherization that is borne by the owner of a rental building.

Lead Safe Working Conditions

Conditions that meet the OSHA and EPA requirements for adequate protection from lead exposure for both the building occupants and the workers performing the weatherization activities.

Lost Materials

Materials that cannot be accounted for at the time of inventory reconciliation, including stolen materials.

Low Income Home Energy Assistance Program (LIHEAP)

The program that is federally designated under 42 U.S.C. 8621. LIHEAP provides benefits and services to assist low-income households with the cost of energy used for home heating. These federal funds are used together with other funding sources to operate the Wisconsin Home Energy Assistance Program (WHEAP).

Major Weatherization Measures

Weatherization measures, as determined by the Division, that a program participant must allow to be done to their home in order to receive any weatherization services.

Master-metered units

Rental units where all units are metered by one device and the owner is responsible for paying the heating costs.

Measures List

The Division approved method of determining weatherization measures for a building in lieu of completing a computerized energy audit.

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Minor as Head of Household

A person under age 18 who is living independently and who (1) is married or (2) has been married or (3) is the principal support of a child.

Multi-Family Building

A building that contains five or more units of housing.

NEAT

The Department of Energy's National Energy Audit Tool is the computerized audit tool currently authorized to use for special situations in 1 – 4 unit buildings.

Non-Guideline Sealing

Is sealing work performed prior to running the Weatherization Cost-Effective Guidelines.

Optional Weatherization Measures

Weatherization measures, as determined by the Division, that may be performed by Grantees at the discretion of the customers/ participants on their residences. Customers can refuse these measures, but the agency must offer them.

Owner Sign-Off

A document signed by the dwelling unit owner that states the weatherization work has been completed as agreed and in an acceptable manner.

Poverty Level

Household income in relation to family size, based on federal poverty guidelines.

Pre-Blower Door Test

The blower door test taken after any non-guideline sealing is done. This is the initial test for the Weatherization Cost-Effective Guidelines.

Program Participant

A person that has been determined to be eligible for the Weatherization Program and who will receive or has received weatherization work to their residence.

Public Benefits

Created as a portion of the "Reliability 2000" bill signed into law on October 27, 1999 as part of the 1999-2001 Wisconsin State budget, Wisconsin Act 9, s.16.957, Utility Public Benefits.

Rental Dwelling Unit

A dwelling unit occupied by a renter(s).

Renter

A person who pays rent to the owner (or his/her designee) of their residence.

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Repair Materials

Items necessary for the effective performance or preservation of weatherization materials, including, but not limited to, shingles and other materials for repairing roof leaks; and protective materials, such as paint used to seal materials installed under the Weatherization Program.

Residence

The dwelling unit in which the household members are living on the application date.

Rework

Work done on a unit that had already been reported as a completed unit.

Rider

A unit whose residents are not income-eligible, but which may receive weatherization and be reported as a completed unit if the building has been determined to be eligible.

Room

A living room, kitchen, dining room, bedroom, family room, den, study or other. It does not refer to bathrooms, entryways, unfinished basements, hallways, unheated attics and porches, closets or areas occupied by persons who are not part of the applicant's economic unit. Space used only for commercial/business purposes is not to be considered a room.

Single Family Dwelling Unit

A structure containing no more than one dwelling unit.

SIR

A term used in NEAT, the National Energy Audit Tool, that refers to the ratio between the energy cost savings over a period of time versus the investment in weatherization measures.

Subsidized Housing

Programs operated under the U.S. Housing Act of 1937, the National Housing Act, Section 101 of the Housing and Urban Development Act of 1965, Section 202 of the Housing Act of 1959, Title V of the Housing Act of 1949 or any program listed in the most current State of Wisconsin Inventory of Federally Assisted Rental Housing and the Housing Authority Directory.

Temporary Household Member

Anyone who, on the date of application:

- 1) Has been in the home for less than two months; and
- 2) The applicant declares he/she is expected to be in the home less than two months.

Temporary Shelter(s)

Any dwelling unit(s) owned by a charitable, nonprofit, non-religious corporation whose principal purpose is to house on a temporary basis individuals who may or may not be related to one another. Examples of temporary shelters are transitional housing for homeless persons and domestic abuse shelters. Nursing homes or similar institutional care facilities are not eligible.

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Unusable Materials

Materials that become unusable due to:

- 1) The elimination by the Division of previously allowable weatherization measures;
- 2) Damage incurred at the warehouse; or
- 3) Inadvertent ordering of an incorrect size. Grantees may only charge unusable materials to the contract if approved, in writing, by the Division.

Weatherization

The improvement of a dwelling unit to reduce energy consumption. It often includes the installation of insulation and replacement or modification of the heating system.

Weatherization Measures

Energy conservation measures as determined by the Division that may be performed on residences by Grantees funded by their weatherization contracts.

WHEAP Agency

The county or tribal entity (or its designated subcontractor), which administers WHEAP.

Work Agreement

A written agreement between a Grantee and the owner/agent of an eligible building that discloses the type and amount of weatherization work to be done on the building and other conditions both parties must agree to, including the right for representatives from the grantee as well as state and federal government, or their designee, to verify the delivery of weatherization services and the quality of those services. Owner/agent must sign work agreement prior to the installation of weatherization measures.

Work Order

The document that specifies the work to be done and materials to be installed on a dwelling unit.

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Chapter 2 General Management

A. General Management Policy

Grantees shall make all reasonable efforts to deliver comprehensive weatherization services to low-income people in the most cost effective, efficient, and timely way possible. In doing so, Grantees will maximize the use of the funding in delivering weatherization services.

Grantees shall provide weatherization services in a nondiscriminatory way in compliance with the priority requirements of the Weatherization Program.

B. Work Agreement

A work agreement must be signed by the owner/agent of an eligible dwelling unit prior to the commencement of weatherization work. The work agreement must detail the type and amount of weatherization work to be done on the building and other conditions both parties must agree to, including the right for representatives from the grantee as well as state and federal government, or their designee, to verify the delivery of weatherization services and the quality of those services.

C. Completion of Dwelling Unit

Grantees may report a dwelling unit complete only after a final inspection has been performed, any work required by the final inspection has been completed and inspected, the owner sign-off has been obtained, and the Grantee certifies the work was appropriate and performed in a workman-like manner.

Grantees must make a good faith effort to obtain the signature of the home or rental property owner when the work has been completed. An example of a good faith effort is that the Grantee requests the owner's signature by certified or registered mail and receives no response within 30 days. If the owner does not respond, Grantees must document their efforts to obtain a signature and the results of those efforts and put a copy of the documentation in the client's file. In the case of a rental property where the owner's signature is not obtained, grantees should obtain the tenant's signature.

D. Denial of Service

Weatherization service shall be denied when:

- 1) The building is not eligible.
- 2) There are no energy conservation measures to complete.

Applicants may appeal a denial of service utilizing the grantees appeal process (See E.2 below).

E. Deferral of Service

E.1 Rationale for Deferral of Service

It is the policy of the Division to provide comprehensive weatherization services to buildings occupied by eligible low-income people. Grantees should strive to complete all measures called for on a unit. If the client refuses work items such that the overall job does not meet a SIR of ≥ 1.0 when run on NEAT, Grantees should defer all services to the client. Deferral of service may also occur if serious crew safety concerns exist (in or at the dwelling) according to the Grantee's Deferral policy (see Appendix F).

Refusal of measures that are optional to the client is not cause for deferral.

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E.2 Applicant Appeal Process

- 3) Grantees shall have an internal applicant appeal process. Upon the deferral of Weatherization Program services, the applicant must be given a copy of the Grantee's appeal procedure. Note that this may be the same process that is used for Appeal of Denial of Service (which occurs based on ineligibility of the applicant or the lack of identified ECMs).
- 4) Any applicant eligible for weatherization services, whose services are deferred because of the Deferral policy must be notified in writing of the reason and the means by which they can rectify the situation so services may be performed. This notification must be made within 5 working days of the decision to defer weatherization work on the unit. The requirements must be reasonable given the severity of the problem addressed. (The standardized deferral form, described in Chapter 10—Health & Safety and provided in Appendix F, should be used for this purpose.) Any applicant that complies fully with these requirements shall be reinstated in the Grantee's priority system for weatherization work to progress as soon as is reasonably possible.

F. Quality Control System

Grantees shall have a documented quality control system, which is a set of procedures that are designed to provide a review of all program functions, which includes a dwelling unit check and measurement of client satisfaction. Completing a final inspection is not a Quality Control activity. A typical quality control system will review the following areas:

- 1) Energy audit (also called Weatherization Audit) /Measures List accuracy and appropriateness;
- 2) Work order/Work Agreement appropriateness;
- 3) Client understanding of work to be performed;
- 4) Completeness of work performed;
- 5) Quality of work performed;
- 6) Client satisfaction with work performed; and
- 7) Client benefits received.

Grantees shall track service related complaints. All serious complaints, such as those having potential legal consequences, those relating to severe structural damage or those where client health appears to have been severely impacted by weatherization activities must be forwarded to the Division within 7 days.

G. Reworks

Any weatherization work performed on a unit after the unit has been reported as completed within the WisWap system is considered a rework. Rework expenses require prior Division approval to be allowable. Since federal and state requirements prohibit returning to units that have been previously weatherized for a minimum of 5 years or units completed prior to September 30, 1993, extenuating circumstances are required for the Division to authorize any rework activities.

Weatherization work that was omitted or does not meet the program requirements is the responsibility of the Grantee. If, in the opinion of the Division, there is a legitimate claim that the Grantee misinterpreted program requirements, the Division may authorize the unit to be reworked using Weatherization Program funds. Prior authorization is required for such rework activities. The Division encourages Grantees to contact the Division regarding any policy interpretation issues prior to completing the unit.

Grantees are encouraged to utilize their insurance coverage to cover expenses related to employee or contractor negligence, warranty issues or other expenses related to completed weatherized units.

H. Reweathering

Grantees may provide additional weatherization services using both Federal and State Public Benefits funds for dwelling units originally weatherized with DOE funds prior to September 30, 1993. Additional

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weatherization services will be determined with either the appropriate Measures List or a Weatherization Audit, whichever is appropriate for the type of structure.

Units weatherized between 5 years prior to the date of the most current eligibility certification and September 30, 1993 may be weatherized using State Public Benefits funds only.

I. Lobbying

Grantee staff members that perform any lobbying activities shall comply with the instructions included with the Wisconsin Disclosure of Lobbying Activities form, SF-LLL (rev 7-97). Lobbying forms can be obtained from the World Wide Web at the URL address: <http://training.fws.gov/fedaid/toolkit/sflll-f.pdf>.

J. Open Records/Public Records

Grantees are subject to both federal [federal: 10 CFR 600.236 (3)(9)] and state (Chapter 19, subchapter II, sections 19.21 through 19.39, Wis. Stats.) public records laws. These laws relate to record retention by the Grantee and its contractors/vendors and to the provision of information (known as "complete public access"). Division policy is to:

1. forward a copy of all records requests to DOA Division of Energy or directly to Legal Counsel;
2. provide records to requestors as required; or
3. request that DOA coordinate the response to the records request

K. Limited English Proficiency Customers

Grantees are obligated to ensure that persons with limited English Proficiency (LEP) have meaningful and equal access to benefits and services. This assistance goes beyond provision of brochures in Spanish, Hmong, or another language. As some individuals may not read English, or any other language, the agency must have a mechanism to communicate orally with people with limited English proficiency.

L. Conflict of Interest Policy

Each Grantee shall develop, maintain, and keep on file a plan for dealing with potential conflicts of interest. Conflicts of interest covered by the plan must include all situations, actual or perceived, when the Grantee, members and relatives of the Grantee's Board of Directors, Grantee staff, and relatives of Grantee staff have an interest in a business (or organization) providing services or materials, or property proposed to be served. At a minimum the plan must set forth the procedures and steps the Grantee will follow to deal with conflicts of interest in:

- 8) Purchase of materials and services;
- 9) Taking of applications;
- 10) Prioritizing and scheduling of services;
- 11) Determining services (auditing) for buildings;
- 12) Installing measures in buildings;
- 13) Conducting final inspections; and
- 14) Obtaining owner sign-off.

M. Training and Technical Assistance

Each grantee is required to submit to the Division within 30 days from the contract begin date a Training and Technical Assistance Plan outlining the proposed activities T&TA funds will be used for and the projected timing of these activities.

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Chapter 3 Weatherization of Rental Units

A. General

Grantees must provide services to buildings that have rental dwelling units currently occupied by eligible program participants or will be occupied by eligible program participants within 180 days of completion of the weatherization work.

Since a significant portion of Wisconsin's low-income population rents, Grantees are required to make a substantial effort to weatherize a number of rental units that is proportional to renters in the low-income population.

Rental buildings should be treated the same as owner-occupied buildings in utilizing either the Weatherization Measures List or Weatherization Audit in determining appropriate measures to be performed. However, a mechanical engineer's, (or other qualified individual as determined by the Division), energy payback calculations (SIR of 1 or greater) justifying the energy conservation measures may be substituted for the 5+ unit Building Measures List. The appropriate Division staff must give prior written approval before any 5+ unit building can be weatherized using substitute payback calculations.

Grantees must receive written permission from the owner (or authorized representative) to weatherize the building. A written Rental Agreement as described below is required for each rental weatherization project.

In multifamily rental buildings, the Grantee must weatherize the entire building if 66%, (50% for duplexes and four-unit buildings), or more of the dwelling units in the building:

- 1) are eligible dwelling units; or
- 2) will become eligible dwelling units within 180 days under a federal, state or local government program for rehabilitating or making similar improvements to the building.

If the entire building is not eligible for weatherization, because there are not enough units occupied by eligible families, service to the entire building shall be deferred.

An individual unit in a multifamily condo style building can be served only when the structure of the building permits all major weatherization measures to be completed.

B. Policies and Procedures

Each Grantee shall have an approved Rental Housing Plan before weatherizing any rental units and thereafter must comply with this plan.

The Rental Housing Plan policies and procedures must require that:

- 1) Owners will not raise rents for a period of one year because of the increased value of the dwelling units when the value is increased solely because of the weatherization work.
- 2) Affected households eligible for weatherization are notified that rent cannot be increased per item 1) above.
- 3) No undue or excessive enhancement will occur to the value of dwelling units.
- 4) Where required, tenants shall be informed of owner contributions in the form of rebates and rent reductions.
- 5) Tenants must be notified in writing of the formal complaint process. If there is a violation of the landlord agreement, a tenant must first notify the Grantee for resolution. If the complaint is not resolved at the Grantee level, the tenant may submit a written request for investigation to the:

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Division of Energy
Energy Assistance Bureau
PO Box 7868
Madison WI 53707-7868

- 6) A written Rental Agreement must be made between the Grantee and the owner detailing the specific work to be performed, its estimated value and the conditions with which both parties to the agreement must comply, including the right for representatives from the grantee as well as state and federal government, or their designee, to verify the delivery of weatherization services and the quality of those services.
- 7) Language must be included in the Rental Agreement that identifies the Division as the final arbiter in resolving tenant complaints.
- 8) The Rental Agreement must include language that the owner agrees that failure to comply, as determined by the Division in final arbitration, will result in the owner making payment for the cost of weatherization services provided.

B.1. Rental Units Containing Commercial Property

If a building contains a rental unit(s) and is also used for commercial purposes, only the part of the building that is occupied by an eligible person may be weatherized. Grantees may not weatherize commercial property. Where a measure will need to be installed on both the eligible unit and commercial area to be effective (i.e. balloon framing sidewall insulation) the grantee shall charge the portion associated with the eligible unit to the program and charge the portion associated with the commercial area to the property owner. The amount charged to the property owner may not be counted toward the owner contribution if an owner contribution is required under B.2. If the property owner declines the measure or declines to pay for the portion associated with the commercial area the unit shall be deferred.

B.2. Owner Contributions

In rental units where owners are responsible for paying heating costs, or multifamily units that are master-metered, property owners are required to make a contribution amounting to 15% of the total cost of the weatherization work. In calculating the owner's contribution, the Grantee should not include the cost of the replacement of authorized doors and windows. Any door or window supplement would be in addition to any rental weatherization contribution.

Exception: Low-income landlords who are themselves eligible for weatherization services or Wisconsin Home Energy Assistance Program (WHEAP) are not required to make contributions.

Owners may make contributions in any of the following ways: (Note exception below.)

- 1) Cash contribution;
- 2) Rebate or rent reduction (the rebate period cannot exceed one year); or
- 3) Work performed by the property owner to the dwelling unit to facilitate weatherization services. For example, these may be repairs defined by DOE or measures installed to meet the Department of Commerce's Rental Energy Code. Except that labor performed by the property owners themselves may not count toward the contribution; however, cost of the materials used may be counted toward the contribution.

C. Group Homes

Grantees may weatherize eligible, private, not-religious, nonprofit or publicly owned long-term group homes. Group homes are facilities that provide housing for families and individuals, such as community based care facilities (CBRFs) that provide housing for elderly and disabled persons. They are eligible when they meet the dwelling unit and separate living quarters requirements.

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This requires that the Grantee review the building and establish the number of dwelling units in the building. If the group home has a central kitchen used by the occupants, each living area does not qualify as separate living quarters.

Group homes are not automatically eligible because they are licensed as CBRFs.

C.1. Single Dwelling Units

If the group home is a single-dwelling unit, treat it as such in determining eligibility and in providing services.

C.2. Multiple Dwelling Units

If the group home is composed of more than one dwelling unit, determine eligibility for each unit. See Chapter 4 - Outreach, Client Eligibility and Files to determine household composition and changes in household composition.

D. Temporary Shelters

Any dwelling unit or units whose principal purpose is to house, on a short-term basis, individuals who may or may not be related to one another is a temporary shelter. Examples of temporary shelters are transitional housing for homeless persons and domestic abuse shelters. Nursing homes or similar institutional care facilities are not eligible temporary shelters.

Grantees may weatherize temporary shelters without an income eligibility test or entry of an application in WisWap. However, only properties owned by charitable, nonprofit, non-religious corporations, or owned by units of government and their subsidiaries, such as housing authorities, are eligible.

For the purpose of determining how many dwelling units exist in a shelter, a grantee may count each 800 square feet of the shelter as a dwelling unit or count each floor of the shelter as a dwelling unit.

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Chapter 4 Outreach, Eligibility and Client Files

A. Outreach

A.1. Priority Groups

Grantees must give priority to those households that contain elderly, handicapped person(s), or children under age 6. Optionally, grantees may give priority to a high energy consumption household. Renters have the same status as homeowners for determining priority.

A.2. WHEAP Certification on WisWap

Relevant household information regarding applicants applying for weatherization services that have been certified eligible for Energy Assistance by the WHEAP system will automatically be transferred electronically to the Wisconsin Weatherization Assistance Program's database (WisWap). Where WHEAP system information is available, it may be used instead of completing another Home Energy Plus application. However, the Weatherization Supplemental application form must be completed before the household may be certified as eligible for weatherization services.

A.3. WHEAP Referral List

The Division produces a WHEAP Referral List for Grantees as a marketing tool. The Referral List is organized by grantee and displays WHEAP applicants that have met the following criteria:

- 1) Case has been extracted; and
- 2) Household income was less than or equal to 150% of poverty or at least one member of the household was categorically eligible.

The list contains recipients' names, addresses, telephone numbers, WHEAP application dates, fuel costs and WHEAP benefits, if applicable. The list can be sorted alphabetically by last name or by address.

A.4. American Indian Households

Grantees must provide weatherization services to eligible American Indian households (whether residing on a reservation or not) according to the same priorities given to non-American Indian households in the same service area.

When an American Indian household is located on or near a reservation, Grantees must contact the appropriate tribe to determine if the dwelling unit has been previously weatherized. Grantees must also inform the tribe of the intent to provide weatherization services to the household. Grantees are advised to look at their contract with the Division to determine if any tribes are in their area.

B. Application Process

Anyone may apply for weatherization services. For households that wish to apply for weatherization, Grantees must:

- 1) Refer households to the local WHEAP agency to complete a Home Energy Plus Program application;
or
- 2) Assist households with completing the Home Energy Plus Program application, verify information as appropriate, and determine eligibility.
- 3) Grantees must, within 30 days of receipt of a completed application, notify the applicant of:
 - a) eligibility status;
 - b) (if eligible) estimated date of service;
 - c) (if ineligible) reason for ineligibility;

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d) (if ineligible) the Appeal Process.

Grantees must maintain a permanent intake/disposition log of all weatherization applicants. This log should contain the head of household name and social security number, application date(s) and disposition of the application. All applications, eligible or ineligible, must be retained. A Unit ID# must be assigned to all eligible applicants.

B.1. Home Energy Plus Program Application Process

If the person has not completed a Home Energy Plus Program application with the WHEAP agency, the Grantee must complete one. In addition to the Home Energy Plus Program application a Weatherization Supplemental application must be completed. Each of the two application forms must be signed by the applicant.

Households may apply at any time and may reapply if they believe changes in circumstances may change the determination of eligibility. Each application must be complete and signed by the applicant.

The applicant is responsible for providing the documentation needed for the Grantee to determine income eligibility for weatherization services.

B.2. Home Energy Plus Application Form – Field by Field Instructions

The following instructions must be followed in order to complete an application. Grantee should verify application information and supporting documents and certify the application is accurate.

Application Date - Enter the date the application is taken/processed at the agency. The application date for a paper application completed at an outreach site or at the local agency is the date the worker and applicant signed the application. Mailed applications should be dated with the postmark of the returned application. The format must be mm/dd/ccyy.

Worker Number – Enter a Grantee established worker code, or worker name.

Question #1 Outreach Indicator – Check appropriate box.

Question #2 Social Security Number (SSN) - Enter the SSN of the applicant.

Question #3 Ethnic Group - Select the one designation that the applicant says best describes his/her ethnic background. Use "Not Reported" when the applicant is unable or does not want to identify their ethnic background. Use "Other" if their ethnic group is not listed.

Question #4 Name - Enter the first name, middle initial and last name of the person who is the case head. The applicant must use his/her legal name as it appears on the Social Security Card.

Question #5 Residence Address - Enter the address where the applicant resides at the time of the application. This must be the physical address of the residence, not the mailing address. A person who lives in Wisconsin and makes Wisconsin his or her principal residence meets the residence requirement, regardless of length of stay. Persons must also intend to remain in Wisconsin.

Question #6 Mailing Address – Enter the mailing address for the applicant. If the applicant has his/her mail delivered to a legal guardian, protective payee or an authorized representative, enter the address of the guardian or protective payee.

Question #7 Legal Guardian or Protective Payee – Enter information pertaining to the applicant's designated Legal Guardian or Protective Payee, if applicable. If the applicant is a minor, because the adults are not eligible aliens, enter the name of the guardian.

Question #8 Phone Number – Enter the daytime household phone number. Enter any alternate phone number for the household, if any. For each number check the appropriate identification box

Question #9 Birth Date – Enter the birth date of the case head.

Question #10 Citizenship - Select the correct answer from the list.

- U.S. Citizen: The applicant is a US Citizen
- Eligible Alien: An eligible alien is an individual residing in the United States legally with an Immigration and Naturalization Service (INS) number. The INS determines alien eligibility status.

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- Ineligible Alien: The applicant is neither a citizen nor an eligible alien.

Question #11 Student Status - If the applicant answers yes to being a student, select the condition that makes the student eligible (listed below) to receive weatherization:

- The student is physically or mentally disabled, defined as a physical or mental impairment that substantially limits one or more of a person's major life activities; or results in the person receiving either Veteran's or Social Security Disability benefits. This information must be verified.
- The student is receiving W-2/TANF benefits.
- Either the student or his/her spouse living with the student applicant is financially responsible for a child (under age 18) who is living with the student.
- A spouse lives in the household and is not a student.
- The case head works at least 20 hours per week at the minimum wage level. If hours vary, average them over the entire month. Document the hourly wage, number of hours worked, etc. in the Comments Section on the application;
- The applicant is a full-time student receiving extended Unemployment Compensation Benefits enabling the applicant to be a full time student.

Select Student and none of the above (fail the student test) if the applicant does not fit any of the above descriptions.

Question #12 Living Arrangement - Select the living arrangement that describes the household condition (listed below):

- Lives in a group home, halfway house, CBRF, foster home or assisted living
- Lives in a nursing home
- Lives in a government institution or prison or jail
- All household heating bills for the previous month were paid by a government program or by another party not residing in the household.
- Is currently in a homeless situation moving to a permanent residence. Document the proof of permanent address in the Notes. Proof would include the following:
 - 1) Verification of a permanent address to move into. This should be verified by the lease agreement, phone call to the landlord or information from a homeless shelter.
 - 2) The applicant must also have selected a vendor to provide service in their new residence. If the homeless applicant can not secure a home energy account due to large arrearages on a past accounts or does not have the money for a deposit, pro-active services may be applied to their past due account to assist them with securing connection services with a home energy account.

Select "none of the above" if none of the living arrangements above applies to the applicant.

Question #13 Ownership / Rental of Residence - Select whether the client owns or rents at their residence.

Question #14 Landlord Information - Enter the landlord information.

Question #15 Government Assisted Housing - Check "Yes" if the client lives in subsidized housing or receives rental assistance. The monthly subsidized heating and/or electric allowance is considered income for the three-month eligibility period. If the applicant does not receive a heating/electric utility allowance, enter 0 as the sub Housing Heating Allowance income amount and enter an explanation in the Application Notes section.

Question #16 Housing Type - Select the housing type that best describes the client's residence.

Question #17 Number of Rooms – Enter the number of rooms in the house. Enter no more than 9 rooms. Do not count rooms that have been used on a regular basis in the last 12 months for commercial purposes. Examples: the applicant is the owner of a building which includes rooms the applicant has rented to roomer/boarders or overnight guests ("Bed & Breakfast"), do not count these rooms. If the housing type selected is Rooming house, motel, hotel, YMCA, or YWCA the number of rooms must equal one.

Question # 18 Number of Disabled or Handicapped in Household—Enter the number of handicapped or disabled household members. Note this number must match the number of boxes check in question # 22 as disabled.

Question #19 Relationship – Indicate yes or no if there is anyone under 18 related to other person(s) in the household.

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Question # 20 Zero income household—If there is income for the household during the previous three months, select “No.” If there is no income for the household during the previous three months, select “Yes” and enter a detailed explanation in case notes to explain how they have met living expenses.

Question # 21 Annual Fuel and Vendor information – Enter annual fuel costs, vendor information, account name, and account number.

Question # 22 Household composition – Enter all persons living in the household on the date of application, except Temporary Household Members (see Chapter 1, Definitions).

- 1) Name – Enter each household member’s name
- 2) Birth Date – Enter each household member’s birth date
- 3) Social Security Number – Enter each household member’s social security number
- 4) Citizen/Eligible Alien – Enter appropriate code on line for each individual that is a U.S. citizen, Eligible Alien, or Ineligible Alien.
- 5) Disabled – Check the box if the individual is disabled.
- 6) Cat. Eligible – Check the box for each individual that has received cash W2/TANF benefits, Supplemental Security Income, and or Food Stamps for each of the 3 previous months (This is the WHEAP categorical eligibility test). Do not note the applicant household as categorically eligible by the weatherization definition on this part of the application. See Section C for the weatherization definition of categorical eligibility.

Question # 23 Income—Enter the income information in the table using the codes provided.

Case Notes—Enter the notes to supplement the information recorded in the body of the application form on this page.

- 1) All household members must report and verify their income received in each of the preceding three months prior to the application date
- 2) Source - (not required, but recommended) an example of a source of income is the name of the employer.
- 3) Income – enter the amount for each month for each income type. Add the monthly amounts and enter the 3 month total.
- 4) Verification- (required) enter the form of verification used to verify the income.

Client Certification Page—Be sure the applicant reads the Client Certification Page. Explain any item the applicant is unclear about. Be sure the applicant signs and dates the Client Certification Page on the appropriate line. After the applicant signs the form, the work taking the application needs to sign and date the application.

B.3. Weatherization Supplemental Application Form Process

There must be a completed copy of the Weatherization Supplemental application form in each applicant’s file.

Return Application to – Grantees enter their agency name and address here.

WisWAPWisWap Building ID # — Enter the WisWap generated building code.

Job # – Enter a local unit job number (optional).

Line 1. Name/Birth Date/SSN—Enter the applicant full name as it appears in Items 4, 9, and 2 of the Home Energy Plus application or on the WHEAP Certification Referral List.

Line 2. Street Address/Phone Number—Enter the applicant street name/fire number, rural route, box/apartment number and telephone number (if applicable) of the property to be weatherized (hereafter called the property).

Line 3. City/State/Zip/County – Enter the applicant’s city, state, zip and county of property.

Line 4. Contact -- Enter the name of a contact person and his/her telephone number (if applicable).

Line 5. Directions -- Enter directions to the property/dwelling unit.

Line 6. Own – Indicate if the applicant owns the residence and collect documents verifying ownership.

Line 7. Mobile Home -- Indicate if the residence is a mobile home.

Line 8. HUD Funding/Age of Unit – Indicate if the property receives HUD funding and check the appropriate box to indicate the age of the property.

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Line 9. Previous Application for WHEAP – Indicate if the applicant household has ever applied for energy/fuel assistance (WHEAP) and if yes, enter the social security number of the person who applied.

Line 10. Number Elderly/Handicapped – Enter the number of elderly and/or handicapped household members.

Line 11. Rental Information – For renters, enter the name, address and telephone number of the landlord and the amount of monthly rent paid.

Line 12. Multi-Unit Building – If the building contains more than one unit, enter the number of units in the building.

Line 13. Heating Bill – Indicate who gets the heating bill.

Line 14. Primary Heating Fuel Supplier – Enter the name and address of the primary heating fuel supplier, type of fuel used, and account number.

Line 15. Electric Supplier – Enter the name of the electric utility and the account number.

Line 16. Water Heater Fuel Type -- Enter the type of fuel used for water heating.

Authorized Signature: The applicant must read, sign, and date the application. The signature must be that of the same person as shown in Line 1.

Line 17. Agency Verification Ownership – Check “Yes” or “No” to indicate how ownership has been verified and enter the type of documentation used.

Line 18. Eligibility – Check “Yes” if the household is eligible for Weatherization services. If “No” is checked, the denial reason must be entered. Document how the eligibility was verified and enter the certification date and whether the certification was a Home Energy Plus system certification or a Home Energy Plus application.

Line 19. Multi-Family Dwelling – Indicate if the residence is in a multi-family building. The Grantee must check “Yes” or “No” to indicate whether the property is a multi-family dwelling.

Line 20. Recertification – Check “Yes” or “No” to indicate whether household eligibility is being re-certified.

Line 21. Previous Weatherization -- Check “Yes” or “No” to indicate if the dwelling unit had previously received weatherization services and, if yes, the date.

Reviewed by – The Grantee may enter the name of the person reviewing the application.

Date Received – Enter the date this application was received.

B.4. Applicant Appeal Process

If an applicant has been determined income ineligible by the Grantee or the dwelling unit has been determined to be ineligible or deferred, the applicant must be given a copy of the Grantee's internal appeal procedure and be informed that they have a right to appeal the denial of service. If the denial of service is sustained, the applicant must be informed they have the right to appeal the determination. If there is no resolution after internal review, the applicant must be informed they have the right to appeal to:

Division Administrator
DOA Division of Energy
P.O. Box 7868
Madison, WI 53707-7868

The only items that may be appealed are income and dwelling unit eligibility. Work to be performed is not subject to appeal.

C. Eligibility

Grantees must certify the eligibility of each household before performing weatherization services on the dwelling. All applicants must have completed the Home Energy Plus and the Weatherization Supplemental applications.

Eligibility requirements are divided into non-financial and financial requirements. The applicant must meet both sets of requirements to be eligible for weatherization services. Households with incomes over

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150% of poverty may be considered for weatherization only if the household satisfies one of the two categorical eligibility tests below (see C.2)

C.1. Non-financial Eligibility

It is based on:

- 1) Residence;
- 2) Social Security Number; and
- 3) Household composition and circumstances on the date of application;

Non-financial Eligibility Procedure

- 1) Residence.
 - a) A person who lives in Wisconsin and makes Wisconsin his or her principal residence meets the residence requirement, regardless of length of stay. They must also intend to remain in Wisconsin.
 - b) Ineligible aliens do not meet the residence requirement.
 - c) Applicants living in a car, government institution, halfway house, nursing home, recreational vehicle (RV) or tent do not reside in an eligible dwelling unit and are not eligible for benefits.
- 2) Social Security.

A Social Security number (SSN) is required. SSNs can be verified by viewing the SSN card, another federal form, or other acceptable proof.
- 3) Household Members Included.

All persons in the economic unit are considered members of the household if they are in the household on the date of application.

The following is a list of the household members who **SHOULD** be included as household members:

 - a) Children of the case head or spouse of the case head living with the case head.
 - b) In joint-custody cases where a child(ren) lives in more than one location, count the child(ren) in only one household. Determine the household in which children should be counted by using the following Tests in the order listed. (If Test #1 is met, count the children in the household where they reside more than 50% of the year; if Test #1 is not met, proceed to Test #2; if Tests #1 and #2 are not met, then proceed to Test #3; etc.):

Test #1: Count child(ren) in the household where they reside more than 50% of the year.

Test #2: Count child(ren) in the household where they reside more than 50% of the heating season.

Test #3: Count child(ren) in the household that receives child support.

Test #4: Count child(ren) in the household where they are dependents for income tax purposes.

Test #5: Count child(ren) in the household that applies for WHEAP/WX first.

If the household composition changed during the three prior months, consider only the persons living in the household on the date of application. Do not count persons who may have lived in the household during a portion of the preceding three months but are no longer in the household on the application date.

Determine household composition by utilizing the definition of an economic unit and considering the definitions of household member and temporary household member.

- 4) Household Members Not Included.

The following is a list of the persons who are **NOT** included as household members:

 - a) Temporary household member, which is anyone who, on the date of application, has been in the home for less than two months and who the applicant certifies is expected to be in the home for a total of less than two months.

Note: Do not count temporary household members or their income to determine total household size or income.
 - b) Foreign exchange student from another country attending school on an exchange program.

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- c) Foster children or foster adults that are orphaned, neglected, or delinquent who are placed for care.
- d) Roomer/Boarder, which is a person who rents a room in a residential structure but does not share in providing or being provided for the necessities of life with other residents of the structure. The necessities of life are; shelter, heat and utilities. If the applicant rents a room to a roomer, you **Note:** Count the rental income from this roomer/boarder as income.
- e) Medical attendant, which is a person who cares medically for the applicant to allow the applicant to remain in their home instead of going to a nursing home or institution. This medical attendant does not live with the applicant and does not share in providing or being provided for the necessities of life. The necessities of life are; shelter, heat, and utilities.
- f) Ineligible alien, The INS must determine eligibility status.
Note: Count any income this person might have, but do not count ineligible aliens as household members. If the case head is an ineligible alien, the entire household is ineligible. If there is a legal alien of any age in the household, the worker must encourage her/him to apply.
- g) Active duty military, if he/she has been called to active duty in the military and is to be out of the household for at least 60 days. The base income of this individual should not be counted. Any household support provided to maintain the household (i.e. housing allowances or allotments sent directly to the household for support) is counted as income for the household.

5) Eligible Student Households

Applicants are considered students if they are enrolled in an institution of higher education that requires a High School diploma or an equivalency certificate (i.e. Universities, colleges, technical, trade, or vocational schools and schools for the physical or mentally disabled). The eligible applicant must be enrolled in school half-time or more and meet one of the following criteria:

- The applicant is physically or mentally disabled;
- The applicant is receiving W-2/TANF cash benefits;
- The applicant or their spouse (if married) is financially responsible for a child under the age of 18 who is living in the same household;
- Spouse lives with applicant who is not a student;
- The applicant is currently working an average of 20 or more hours per week for at least minimum wage; or
- The applicant is a full time student receiving extended Unemployment Compensation Benefits enabling the applicant to be a full time student.

C.2. Financial Eligibility

Income Limits

Financial Eligibility is based on income received in the three months prior to the date of application. There is no vehicle or asset limit test for eligibility. The income test is based on 150% of the poverty level. If the household's gross quarterly income is less than or equal to the income limit for its size, the household passes the income test. If the gross quarterly income exceeds the limit, the household is not eligible unless categorical eligibility criteria are met.

Categorical Eligibility (CE)

For a household to be determined as categorically eligible, the household must satisfy one of the tests.

Home Energy Plus Categorical Eligibility Test. For a household to be determined as categorically eligible all household members must be recipients of W-2/TANF cash benefits, Food Stamps, or SSI for each of the preceding three (3) months. Categorical eligibility status will allow a household to pass the income eligibility test if they are above the 150% of the federal poverty level and all household members are categorically eligible. **NOTE:** SSI Child Support Supplement payments and C-Supplemental Income are cash grant SSI payments which can be used to determine categorical eligibility. If some, but not all, of the household members are recipients of W-2/TANF, Food Stamps, or SSI, or if all are not recipients for each of the preceding three months, the household does not meet this test.

Weatherization Categorical Eligibility Test. For a household to be determined as categorically eligible

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one household member must have been a recipient of W-2 (TANF) or SSI during one of the preceding 12 months. NOTE: SSI Child Support Supplement payments and C-Supplemental Income are cash grant SSI payments, which can be used to determine categorically eligibility. Categorical eligibility status will allow a household to pass the income test even if they are above 150% of the federal poverty level.

C.3. Rules For Counting Household Income

Count all gross income received by all adult household members in the three calendar months prior to the month of application. Note: Do not count or enter earned income for minors under the age of 18.

If the applicant lives in subsidized housing and there is a heat or a utility allowance, the allowance is considered income. See Income Counted Table for counting heat and utility allowances.

Allow no deductions from gross income for employment-related expenses, childcare, set-asides, or for any other reason, unless identified in the ignored/deducted income table.

Child Support

- 1) Child Support Income Payments received in the household:
 - a) Count all child support payments received by the custodial household (parent).
 - b) If a lump sum payment is made for arrears, including tax intercept income, count the amount of the payment that applies to the previous three months.
- 2) Payments made by a household member to the custodial parent:
 - a) Court ordered child support payments paid by a household member/applicant are ignored and must be deducted from total household income.
 - b) Payments made by a household member/applicant for child support that are not part of a court order may not be ignored and must not be deducted from the household income.
 - c) Payments, even if court ordered, intended to pay for outstanding bills (medical or otherwise), legal costs or other non-custodial expenses may not be ignored or deducted from income.

Self-employment Income

IRS 1040 Forms that report self-employment income are Schedule C (Business), Schedule F (Farm) and Schedule E (Rental). Use the self-employment net income amount reported on the appropriate schedule IRS 1040 tax forms for the previous year. No adjustments are required. Divide the net annual (12-month) income from the appropriate schedule by 4 to obtain 3-month income amounts. Enter each month individually into the system.

When a business was not in operation for the entire previous year because it started business in that year, divide the net "annual" income from the appropriate schedule by the number of months of operation to get the average monthly income (i.e. the business started the first of the previous July so take the net annual income and divide by 6).

If a business operated for only a few months of the previous year, but was in existence for the whole year, divide the net "annual" income by 12 to get the average monthly income. A seasonal business is an example of this situation.

Note: Use IRS 1040 tax forms for personal income, not income from a corporation. Consider ownership of rental property as a self-employment enterprise.

If a person had self-employment income during the three previous months, but is no longer self-employed at the time of the application, prorate the self-employment income for the months it occurred during the three previous months.

When a household has more than one self-employment operation, the losses of one may be used to offset the profits of another but not income from wages, etc.

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If the individual is unable to provide IRS tax forms for the business/farm (when, for example, the taxes have not been prepared yet), Self-employment Income Report Forms (SEIRF) may be substituted for the tax forms. In such a case the SEIRF(s) must cover the previous 12 months. Sum the total of the SEIRF(s) and divide by 12 to calculate monthly income and enter that amount for each of the previous 3 months. The SEIRF (See Appendix for copy) should be used to report self-employment if:

- 1) The business or farm was not in operation during the previous year and IRS tax forms are not available.

Example: Business started in June, applicant is applying in November, and the business operated for five months (June through October.) To determine amount of income from the business, divide total net income by 5 to arrive at amount per month and enter that amount for each of the 3 previous months.

- 2) There has been a significant change in circumstances since tax forms were last completed:
 - If the applicant files Bankruptcy under Chapter 7, the last day of work would be the day that the bankruptcy papers were filed. Do not use last year's tax form; use the SEIRF to calculate income.
 - There has not been a significant change when applicant files bankruptcy under Chapter 11 and remains self-employed. Base income on last year's tax return and any approved bankruptcy reorganization plan.

Seasonal Worker's Income.

Seasonal workers are individuals whose primary employment/source-of-income is normally for less than 12 months per year. Individuals who have regular (year round) employment and hold second jobs in seasonal businesses should not be classified as seasonal workers—use actual income from previous three months.

Seasonal workers often include those working in construction trades (except when the worker actually is employed every month of the year), school bus drivers, teachers, and others whose primary employment is less than 12 months per year. Seasonal workers may have more than one job or source of income. Count all sources of income including unemployment compensation for seasonal workers, especially if there is more than one job or source of income. Count the annual (or past 12 months) amount of each income for a source, except as indicated below, and divide by 12 to obtain the average monthly income from that source. Enter the average amount for each income source for each month.

Do not average income from child support, social security, or SSI – enter the actual income amounts for each of the previous three months for these income sources. NOTE: Self employment losses may not be off-set by wages. When there is a loss in self employment, enter self employment as a separate income source and \$0 as the amount for that source.

Farm Income

Farm Income is treated the same as self-employment income except schedule F is used.

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Income Counted Table

INCOME TYPES	INSTRUCTIONS
Wages, salaries, commissions, bonuses, profit sharing and tips	<p>Count all gross income received in the three months prior to the application month by all adults 18 and over living in the household (See Ignored Income Table for exceptions).</p> <ul style="list-style-type: none"> • Commissions, bonuses and profit sharing received annually (lump sums) should be prorated and counted as income in the year it was received. • Calculate seasonal worker earnings by dividing the person's adjusted gross income on Form 1040A or the 1099 by 4. Report the monthly income for the preceding three months.
Training Allowances	<p>Count vocational and rehabilitative program money recognized by federal, state or local governments. Example:</p> <ul style="list-style-type: none"> • Wisconsin Employment Opportunities Program WEOP • Workforce Investment Act (WIA – formerly JTPA) <p>NOTE: Related reimbursements and payments made directly to service providers for childcare, tuition and fees may be ignored except for any amount in excess of actual expenses which must be counted as income. See Reimbursements</p>
Child Support	<ul style="list-style-type: none"> • Count all child support payments received by the custodial household. Count only the amount of lump sum arrears payments that apply to the previous three months. • Only court ordered child support paid may be deducted from income. Enter under Income/Deduction Type as Child Support Paid. SEE ALSO INCOME IGNORED TABLE,
Assistance Payments	<p>Count assistance payments:</p> <ul style="list-style-type: none"> • SSI • TANF/W2 -count only cash grants received • General Relief (GR) • C-Supplemental Income
Annuities, Pensions and Retirement	<p>Count annuities, pensions and retirement. Examples include Veteran's disability, old-age survivors or disability social security benefits. These payments are scheduled and paid on a regular basis.</p> <p>IRA withdrawals—If the IRA account owner is 70 or older, count all withdrawals from the IRA as income, even if only once a year. If the IRA account owner is under 70 years of age, count as income all withdrawals from an IRA that are regular and more frequent than once a year, for example weekly, monthly, or quarterly.</p>
Strike Benefits, worker's or unemployment benefits	<p>Count money received for Unemployment Compensation in the previous three months. If the payment(s) includes an amount paid specifically for a period not in the three months prior to the application, that portion is ignored as income.</p>
Gambling or wagers	<p>Count gambling winnings including lottery winnings, Bingo or any other income from gambling.</p>

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Income Counted Table (continued)

Spousal impoverishment	Income received as a result of Spousal Impoverishment income allocation provisions of ss HSS 103.07(1)(b)2, WI ADM code is direct income to the spouse. It is not used for any costs incurred by the person residing in the nursing home and all of it except the legally designated nursing home payment (\$45) is counted.
Payments from government sponsored programs	Count income that is described as a benefit or a gain.
Land Contract	Count the interest as income.
Dividends, Interest, and Royalties	Count as income if the money is received/earned in any of the twelve months prior to application and a household member has access to it. Access means being able to withdraw the money. Examples of interest that might not be accessible include IRA's and CDs. If earnings were in any of the twelve months prior to application, divide total earnings by 12 to determine the monthly amount. Do not accept statements that show only the interest earned for the prior three months. Note: Schedule B of the 1040 tax return may be used.
Student Income	Count all earned income, including wages from employment, work-study wages, and ROTC stipends. Do not consider scholarships, educational grants, fellowships, veterans' educational benefits, ROTC payments scholarships or book reimbursements as income for student(s).
Subsidized Heating Allowance and Non-heating Allowance	Residents who live in subsidized housing and pay their heating/electric directly to the vendor must provide proof of their monthly allowance. Count the heating/electric allowance as income for the months it was received. <ul style="list-style-type: none"> • If an applicant moves to subsidized housing in November and applies for heating and/or electric assistance in November, none of the heating/electric allowance is counted as income since it was not received during the previous three-month eligibility period. • If an applicant lives in subsidized housing three months prior to application, the monthly heating/electric allowance would be used as income for all three months. • If an applicant can only provide a "Utility Allowance", agencies may use 1/3 of the utility allowance for heating and 1/3 for electric. • Heating allowance sent directly to the vendor by the housing authority on behalf of the applicant is counted as income.
All other direct money payments which can be construed to be a gain or benefit	Count regular and scheduled payments of any source of monthly income that is not classified as ignored income, including Respite Care if received as salary
Zero Income Cases	Applicants who report "0" income must provide an explanation of how the applicant has been meeting basic living expenses for the last three months. (Spouse was primary income earner and he/she moved out, loans from relatives, savings, odd jobs, etc.).

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Ignored/Deducted Income Table

INCOME TYPES	INSTRUCTIONS
Earned income for minors (under 18)	Do not count earned income for household member(s) under 18.
High school students 18 & over	Do not count income from household member(s) age 18 or over who is a full- or part-time high school student.
Kinship Care	Do not count cash benefit paid to caretaker relatives of minor children. Count the child in the household.
Court Order Child Support	Only court ordered child support payments paid by a household member/applicant may be deducted from income. Such payments may be ignored if they are made for care of the child(ren). Payments, even if court ordered, intended to pay for outstanding bills (medical or otherwise), legal costs or other non-custodial expenses may not be deducted from income. Enter under Income/Deduction Type as Child Support Paid.
Adoption Assistance	Do not count Social Security Act Title IV-E Fund, which provides monthly payment to adoptive parents to assist with the care of a special-needs child. Count the child in the household.
Medicare Premiums	Do not count Medicare premium deductions from Social Security payments.
State SSI-E Supplements to SSI	The state portion is deducted from income on the WHEAP system; that is \$ 95.99 for individuals and \$345.35 for couples
Loans	Ignore all loans a person received in the previous three months from private individuals or commercial sources, including advances on a credit card. Loans must be verified.
Payments made to a third party	Do not count payments made to a third party: <ul style="list-style-type: none"> • Rent payments paid by a relative who isn't a household member • Payments by a government agency to a child caring institution providing day care for a household member • Payments of a household's medical bills made directly to a hospital by an insurance company
Non-household member costs	Do not count money received and used for the maintenance of a third party who isn't a household member. If the intended beneficiaries of a single payment are both a household and non-household member, exclude any identifiable portion of the payment intended for the non-household member.
Non recurring lump sum payments	Do not count: <ul style="list-style-type: none"> • Income tax refunds (paid in lump sums or weekly); • Rebates; • Earned Income Credits (EIC) paid in lump sum or weekly; • Insurance settlements; • Estate Inheritances; • Refunds of security deposits on rental property or utilities; • Retroactive Social Security, Public Assistance or unemployment compensation payments; • Severance pay; • Tax intercept; or • Homestead Tax Credit If the lump sum payment includes an amount paid specifically for any of the three months prior to application, that portion is counted as income.

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Ignored/Deducted Income Table (Continued)

Overpayments and Refunds	<p>Do not count overpayments and refunds when:</p> <ul style="list-style-type: none"> • Verified overpayments were received in any of the preceding three months that the client is responsible to repay. • Amount to repay overpayments is voluntarily or involuntarily withheld from an assistance payment or other source of income.
Reimbursements (money paid to the household for incurred expense)	<p>Do not count reimbursements:</p> <ul style="list-style-type: none"> • As long as the reimbursement is not more than what the household actually spent and is not for normal household living expenses (rent, clothing, or food eaten at home). • If the reimbursement was more than the actual expense, count the extra as income. <p>Reimbursement Examples:</p> <ul style="list-style-type: none"> • Flat allowances or per diem for job or training related expenses such as travel, uniforms and transportation to and from a job or training site, including travel expenses of migrant workers • Out-of-pocket expenses incurred by volunteers • Reimbursement or allowances for students for specific education expenses, i.e. travel or books • Medical and dependent care • Services provided under federal Block Grant programs • Respite Care received to pay for services
Money received by a disabled person that is specifically used to allow him or her to live in their own home	<p>Do not count:</p> <ul style="list-style-type: none"> • Money received through Community Options Program (COP) • Payments to a disabled person for the services of a live-in attendant when the money is paid in total to the attendant for services rendered. <p><i>The money is ignored income for the disabled person, but counted as income for the live-in attendant if the attendant is considered part of the household.</i></p>
Assets	<p>Do not count:</p> <ul style="list-style-type: none"> • Any personal asset sold in any of the three months prior to application • Annual lump-sum withdrawals from an IRA account before the account owner is 70 years old. • Withdrawals from the principal of interest/dividend earning accounts such as savings accounts, trust funds, retirement accounts, stocks and US Treasury Bonds
Interest	Ignore only if it is less than \$120 a year or \$10/month.
Flex Dollars	Ignore flex dollars used for health insurance premiums when the dollars would not otherwise be available to the applicant.
PASS Interest	To the extent it can be identified ignore the interest from asset account for applicants with a PASS plan (SSI <u>P</u> lan for <u>A</u> chieving <u>S</u> elf <u>S</u> upport).

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Ignored/Deducted Income Table (Continued)

Government Payments and Program Participation Income	<p>Do not count:</p> <ul style="list-style-type: none"> • Payments or allowances made under any federal, state or local laws for the purpose of energy assistance, including WHEAP. Do not count GR payments specifically designated for heating/electric costs. • Payments made to children of Vietnam Veterans born with spina bifida • VISTA income • Americorp income • Base pay of military personnel called to temporary active duty when the individual is not in the household on date of application and when the temporary assignment will be for 60 days or more. • Foster Care payments • Title V Senior Community Service Employment Program (SCSEP) income, formerly Green Thumb. • Payments to volunteers under Title II (RSVP, Foster grandparents and other) and Title III (SCORE and AGE) of the Domestic Volunteer Services Act of 1973 (P.L.93-113) as amended • Youth Incentive Entitlement Pilot Projects, Youth Community Conservation and Improvement Projects, Summer Youth Employment Program and reimbursement of expenses provided under the Workforce Investment Act (WIA) and Wisconsin Conservation Corps. • Uniform Relocation Assistance and Property Acquisition Policy Act of 1970 (P.L. 92-646, section 216) • Alaska Native Claim Settlement Act (P.L. 92-203, Section 21(a)) • Sub-marginal land of the United States held in trust for certain Indian tribes (P.L. 94-114, Section 6) • Retroactive DEFRA payments • Payments made under P.L. 100-383 Wartime Relocation of Citizens. These are restitution payments made by the US government to individual Japanese-Americans or their survivors and Aleuts who were interned or relocated during World War II. <p>Do not count:</p> <ul style="list-style-type: none"> • Monies received as a result of P.L. 101-41, Puyallup Tribe of Indians Settlement Act of 1989. • Monies received as a result of work performed for the Census Bureau on the 2000 census. • Veteran's Aid in Attendance is ignored unless the aid worker is living in the household.
In-kind Income	<p>Do not count any gain or benefit that is not in the form of money payable directly to the household, such as meals, clothing, housing or garden produce. This includes but is not limited to:</p> <ul style="list-style-type: none"> • Benefits received from the supplemental food program for Women, Infants and Children (WIC) • FoodShare (Food Stamps) Coupons

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D. Dwelling Eligibility and Limitations on Eligibility

A dwelling will be eligible for weatherization if occupied by an eligible household and if the dwelling has not previously been weatherized under the Weatherization Program.

A dwelling that was weatherized prior to September 30, 1993 with DOE funds may be eligible for reweatherization if the current residents are eligible for the Weatherization Program.

For multifamily and rental units, see Chapter 3 - Rental Weatherization.

Note: A dwelling unit that is located in a public benefits service territory, may be eligible for additional service if weatherization services were received five or more years prior to the current date.

D.1 Limitations on Dwelling Eligibility

A dwelling unit is not eligible for weatherization, even if occupied by an eligible household, if the dwelling was previously weatherized with Weatherization Program funds, unless:

- 1) The dwelling has been damaged by fire, flood or natural disaster and repair of the damage to weatherization materials is not covered by insurance; or
- 2) The dwelling is eligible for reweatherization because the original work was prior to September 30, 1993.

A dwelling does not become eligible for additional weatherization if the occupancy of the dwelling unit changes to another low-income family.

A dwelling is not eligible for weatherization, even if occupied by an eligible household, if a federal, state or local program has designated the dwelling for acquisition or clearance within 12 months from the date weatherization of the dwelling unit would be scheduled to be completed.

D.2 Limitation on Multifamily Dwelling Eligibility

For information on limitations on eligibility of multifamily and rental units, see Chapter 3 - Rental Weatherization.

E. Recertification of Eligibility

If there is reason to believe the eligibility of a household has changed since the Home Energy Plus Application form or WHEAP list was completed, re-certify the household.

- 1) Weatherization Applicants: For households that have applied for weatherization services, work must be completed within one year of the date of application. If weatherization work is not completed within one year, the household must be re-certified, or must be on a current certification list.
Exception as follows:
- 2) WHEAP Lists: For households whose application date indicated on the WHEAP list is between August 1 through December 31, weatherization work must be completed by December 31 of the following year. If weatherization work is not completed prior to this date, the household must be re-certified or be on a current certification list.

F. Client Files and Records

Grantees must maintain all certification documentation and other required client documents, including information concerning the dwelling unit. Those files created on or after September 30, 1993 must be maintained until notified otherwise by the Division.

Grantees must comply with the applicable federal laws, Wis. Stats. 49.53(1) and Division regulations concerning confidentiality of client records.

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Grantees should consider Social Services Department staff who are working with WHEAP or with Income Maintenance Programs (W-2/TANF, Food Stamps, etc.) as employees of the Division for purposes of confidentiality. Therefore, permit these staff access to necessary information concerning clients. Grantees must make available to the Division all records maintained in accordance with this contract upon request for inspection, examination or audit.

The following information is required in each client file:

- 1) Weatherization Supplemental application form;
- 2) Copy of WHEAP application including income verification if eligible as determined by the Grantee;
- 3) Recertification application, if appropriate;
- 4) Verification of ownership;
- 5) On deferred or denied units, include a copy of the notification provided the household;
- 6) Work agreement signed by property owner or agent prior to the installation of weatherization measures;
- 7) NEAT Audit Output Report where applicable;
- 8) Work order, including:
 - a) Total measures cost,
 - b) Date of final inspection,
 - c) Completed work: owner sign-off or owner and tenant sign-off,
 - d) Quality control record, if performed,
 - e) Justification for Measures List Items not completed, and
 - f) Documentation related to non-DOE/WHEAP/Public Benefits weatherization work on the unit;
- 9) For multifamily dwelling unit, cross-references to the other weatherized units in the building;
- 10) Health and Safety Inspection documentation (see Health and Safety);
- 11) Documentation that the EPA Lead Booklet has been given to the household.
- 12) A completed Building Diagnostics and Combustion Safety Test form.
- 13) A completed Blower Door Tests and Sealing Summary form.
- 14) For rental units, rental agreement, documentation of unit's monthly rent, and documentation of contribution calculation; and
- 15) Photographs are required on all jobs and shall include at a minimum the following:
 - a) The frontal view of the unit exterior
 - b) Each appliance before replacement
 - c) On deferred unit, pictures documenting the reason for deferral (mold or other problems)
 - d) An condition adversely affecting the installation of weatherization measures.

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Chapter 5 Weatherization Materials

A. General

Materials shall be installed in a professional and lead-safe manner and shall insure the effectiveness of the materials. Materials shall be installed to meet or exceed manufacture specifications. All materials and labor must carry a one-year warranty from the date of the final inspection. All work will meet applicable codes and regulations. Materials used must meet the requirements outlined in this chapter.

B. Insulation Fact Sheets & Information

The Federal Trade Commission rule “Trade Regulation Rules: Labeling and Advertising of Home Insulation” (16 CFR Part 460) obliges Grantees to distribute, or review with the client, fact sheets supplied by manufacturers on all insulation to be installed. Do this as part of the work agreement. Grantees can have all fact sheets in a binder and review the applicable ones with the client. The rule requires that clients must be provided with information on all insulation that has been installed, including:

- 1) Area insulated.
 - 2) Thickness of material.
 - 3) R-value.
 - 4) For cellulose: number of bags, brand name and estimated coverage for each area insulated.
- The rule covers all insulating materials used in the Weatherization Program.

C. Recycled Insulation Products

Grantees that meet the criteria listed in Section C.1. below must comply with the Environmental Protection Agency (EPA) regulations dealing with the purchase of building insulation products, as specified in EPA regulations 40 CFR Part 248. These regulations implement Section 6002 of the Resource Conservation and Recovery Act (RCRA), which encourages recycling of materials. The regulations cover insulation products used in commercial, industrial and residential applications. They apply to insulation products used to improve the thermal effectiveness of building envelopes, but do not apply to insulation for air handling units, insulation for acoustic purposes, or cold storage insulation. Commercially available insulation products that can contain recycled materials include cellulose, fiberglass, Perlite, composite board, plastic foams and boards and rock wool. There are EPA-recommended minimum recovered materials standards for all of these products except fiberglass.

The EPA recycling regulations apply to all direct purchases of products from vendors or suppliers or use contractors of:

- 1) At least \$10,000 worth of insulation products in the previous fiscal year, or
- 2) A single purchase in excess of \$10,000 worth of a covered product in the current fiscal year.

When a grantee meets the above criteria, the grantee must comply with the regulations in the current and following fiscal years.

Grantees that meet the criteria shown in Section C1 are required to comply with the following:

- 1) Specifications for insulation products must allow for the purchase of items containing recovered materials, and
- 2) Establish an affirmative procurement program to facilitate procurement of insulation products containing recovered materials.

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D. Weatherization Standards for Materials

The grantee must purchase weatherization materials and use the installation procedures that meet or exceed the standards prescribed in this chapter. Weatherization materials standards include any of the following Government standards listed here.

The following Government standards are produced by the Consumer Product Safety Commission and are published in title 16, Code of Federal Regulations.

Thermal Insulating Materials for Building Elements Including Walls, Floors, Ceilings, Attics, and Roofs Insulation: organic fiber.	Interim Safety Standard in 16 CFR part 1209
Fire Safety Requirements for Thermal Insulating Materials According to Insulation Use—Attic Floor—insulation materials intended for exposed use in attic floors shall be capable of meeting the same flammability requirements given for cellulose insulation.	16 CFR part 1209
Enclosed spaces—insulation materials intended for use within enclosed stud or joist spaces shall be capable of meeting smoldering combustion requirements.	16 CFR part 1209.

The following standards that are not otherwise set forth in part 440 are incorporated by reference and made part of part 440. The following standards have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on January 3, 2002 and a notice of any change in these materials will be published in the Federal Register. The standards incorporated by reference are available for inspection at the Office of the Federal Register Information Center, 800 North Capitol Street, Suite 700, Washington, DC 20001.

The standards incorporated by reference in part 440 can be obtained from the following sources:

- Air Conditioning and Refrigeration Institute, 4301 N. Fairfax Drive, Suite 425, Arlington, VA 22203; (703) 524-8800.
- American Architectural Manufacturers Association, 1827 Walden Office Square, Suite 104, Schaumburg, Illinois 60173-4268; (847) 303-5664.
- American Gas Association, 400 N. Capitol Street, NW, Washington, DC 20001; (202) 824-7000.
- American National Standards Institute, Inc., 11 West 42nd Street, New York, NY 10036; (212) 642-4900.
- American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990; (212) 591-7722.
- American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; (610) 832-9585.
- Association of Home Appliance Manufacturers, 1111 19th Street, NW, Suite 402, Washington DC 20036; (202) 872-5955.
- Federal Specifications, General Services Administration, General Services Administration, Federal Supply Service, Office of the CIO and Marketing Division, Room 800, 1941 Jefferson Davis Hwy., Arlington, VA 22202; (703) 305-6288.
- Gas Appliance Manufacturers Association, 2107 Wilson Boulevard, Suite 600, Arlington, Virginia 22201; (703) 525-7060.
- Manufacturers Association, 1300 North 17th Street, Suite 1847, Rosslyn, VA 22209; (703) 841-3200.
- National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101; (617) 770-3000.
- Sheet Metal and Air Conditioning Contractors Association, 4201 Lafayette Center Drive, Chantilly, Virginia 20151-1209; (703) 803-2980.

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- Solar Rating and Certification Corporation, c/o FSEC, 1679 Clearlake Road, Cocoa, FL 32922-5703; (321) 638-1537.
- Steel Door Institute, 30200 Detroit Road, Cleveland, OH 44145-1967; (440) 899-0010.
- Steel Window Institute, 1300 Sumner Avenue, Cleveland, OH 44115-2851; (216) 241-7333.
- Tubular Exchanger Manufacturers Association, 25 North Broadway, Tarrytown, NY 10591; (914) 322-0040.
- Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096; (847) 272-8800.
- Window & Door Manufacturers Association, 1400 East Touhy Avenue, Suite 470, Des Plaines, IL 60018; (800) 223-2301.

More information regarding the standards in this reference can be obtained from the following sources:

- Environmental Protection Agency, 401 M Street, NW, Washington, DC 20006; (202) 554-1080.
- National Institute of Standards and Technology, U.S. Department of Commerce, Gaithersburg, MD 20899; (301) 975-2000.
- Weatherization Assistance Program, Office of Building Technology Assistance, Energy Efficiency and Renewable Energy, 1000 Independence Avenue, SW, EE-42, Washington, DC 20585-0121.

D.1. Thermal Insulating Materials for Walls, Floors, Ceilings, Attics and Roofs

[Standards For Conformance]

Insulation—mineral fiber: Blanket insulation Roof insulation board Loose-fill insulation	ASTM ¹ C665-98. ASTM C726-00a. ASTM C764-99.
Insulation—mineral cellular: Vermiculite loose-fill insulation Perlite loose-fill insulation Cellular glass insulation block Perlite insulation board	ASTM C516-80 (1996)e1. ASTM C549-81 (1995)e1. ASTM C552-00 ASTM C728-97.
Insulation—organic fiber: Cellulose fiber insulating board Cellulose loose-fill insulation Cellulose wet-spray insulation	ASTM C208-95. ASTM C739-00. ASTM C1149-97.
Insulation—organic cellular: Preformed block-type polystyrene insulation Rigid preformed polyurethane insulation board Polyurethane or polyisocyanurate insulation board face with aluminum foil on both sides Polyurethane or polyisocyanurate insulation board face with felt on both sides	ASTM C578-95 ASTM C591-00. FS ² HH-I-1972/1 (1981). FS HH-I-1972/2 (1981) and Amendment 1, October 3, 1985).
Insulation—composite boards: Mineral insulation board Perlite board Gypsum board and polyurethane or polyisocyanurate composite board Materials used as a patch to reduce infiltration through the building envelope	ASTM C726-00a. ASTM C728-97. FS HH-I-1972/4 (1981). Commercially available.

¹ ASTM indicates American Society for Testing and Materials.

² FS indicates Federal Specifications.

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D.2. Thermal Insulating Materials for Pipes, Ducts, and Equipment such as Boilers and Furnaces

[Standards For Conformance]

Insulation-mineral fiber:	
Insulation-mineral fiber: Performed pipe insulation Blanket and felt insulation (industrial type) Blanket insulation and blanket type pipe insulation (metal-mesh covered, industrial type) Block and board insulation Spray applied mineral fiber thermal and sound absorbing insulation High-temperature fiber blanket insulation Duct work insulation	ASTM C547-00. ASTM C553-00. ASTM C592-00. ASTM C612-00. ASTM C1014-99ae1. ASTM C892-00. ¹ ASTM C1290-00.
Insulation—mineral cellular Calcium silicate block and pipe insulation Cellular glass insulation Expanded perlite block and pipe insulation	ASTM C533-95. ASTM C552-00. ASTM 610-99.
Insulation—organic cellular: Performed flexible elastomeric cellular insulation in sheet and tubular form Unfaced preformed rigid cellular polyurethane insulation	ASTM C534-99. ASTM C591-00.
Insulation skirting	Commercially available.
¹ ASTM indicates American Society for Testing and Materials.	
² FS indicates Federal Specifications.	

D.3. Fire Safety Requirements for Insulating Materials According to Insulation Use

Attic floor	Insulation materials intended for exposed use in attic floors shall be capable of meeting the same smoldering combustion requirements given for cellulose insulation in ASTM ¹ C739-00.
Enclosed space	Insulation materials intended for use within enclosed stud or joist spaces shall be capable of meeting the same smoldering combustion requirements given for cellulose insulation in ASTM C739-00.
Exposed interior walls and ceilings	Insulation materials, including those with combustible facings, which remain exposed and serve as wall or ceiling interior finish, shall have a flame spread classification not to exceed 150 (per ASTM E84-00a).
Exterior envelope walls and roofs	Exterior envelope walls and roofs containing thermal insulation shall meet applicable local government building code requirements for the complete wall or roof assembly.
Pipes, ducts, and equipment	Insulation materials intended for use on pipes, ducts, and equipment shall be capable of meeting a flame spread classification not to exceed 150 (per ASTM E84-00a).

¹ ASTM indicates American Society for Testing and Materials.

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D.4. Storm Windows and Window Replacements

[Standards For Conformance]

Storm windows: All storm windows Aluminum frame storm windows Rigid vinyl frame storm windows Frameless plastic glazing storm Movable insulation systems for windows	AAMA/NWWDA ¹ 101/I.S. 2-97. ANSI/AAMA ² 1002.10-93. ASTM ³ D4726-00 Required minimum thickness for windows is 6 mil (0.006 inches). Frameless plastic glazing storm Commercially available.
Replacement windows: All Windows Steel frame windows Rigid vinyl frame windows	Replacement windows must be Energy Star qualified. AAMA/NWWDA ¹ 101/I.S. 2-97 Steel Window Institute recommended specifications for steel windows, 1990 ASTM ³ D4726-00.

¹. AAMA/NWWDA indicates American Architectural Manufacturers Association/National Wood Window & Door Association (now the Window and Door Manufacturers Association).

². AAMA indicates American Architectural Manufacturers Association.

³. ASTM indicates American Society for Testing and Materials.

D.5. Storm Doors and Door Replacements

[Standards For Conformance]

Storm (glass) doors All storm (glass) doors Aluminum frame storm doors Sliding glass storm doors	AAMA/NWWDA ¹ 101/I.S. 2-97 AAMA 1102.7-89. AAMA 1002.10-93.
Rigid vinyl storm doors	ASTM ⁴ D3678-97 and D4726-00.
Vestibules: Materials to construct vestibules	Commercially available.
Replacement doors; All replacement doors Steel doors Wood doors: Flush doors Stile and rail door	Replacement doors must have a minimum value of R-9 and be Energy Star qualified, if available ANSI/NWWDA ³ 101/I.S. 2-97 ANSI ² A250.8-98. ANSI/NWWDA ² I.S. 1-97 (Amendment, exterior door provisions). ANSI/NWWDA I.S. 6-97.

¹. AAMA/NWWDA indicates American Architectural Manufacturers Association/National Wood Window & Door Association (now the Window and Door Manufacturers Association).

². ANSI indicates American National Standards Institute.

³. ANSI/NWWDA indicates American National Standards Institute/National Wood Window & Door Association (now the Window & Door Manufacturers Association).

⁴. ASTM indicates American Society for Testing and Materials.

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D.6. Caulks and Sealants

[Standards For Conformance]

Caulks and sealants:	
Glazing compounds for metal stash	ASTM ¹ C669-00.
Oil and resin base caulks	ASTM C570-00.
Acrylic (solvent types) sealants	ASTM C920-98e1.
Butyl rubber sealants	FS ² Commercial Item Description A-A-272 (6/7/95).
Chlorosulfonated polyethylene sealants	ASTM C920-98e1.
Latex sealing com-pounds	ASTM C834-00e1.
Elastomeric joint sealants (normally considered to include polysulfide, polyurethane, and silicone)	ASTM C920-98e1.
Preformed gaskets and sealing materials	ASTM C509-00.
Duct sealing mastic	UL ³ 181A-M Second Edition, 1994 and UL 181B-M, First Edition, 1995-

¹ ASTM indicates American Society for Testing and Materials.

² FS indicates Federal Specifications.

³ UL indicates Underwriters Laboratory.

D6. Weatherstripping

[Standards For Conformance]

Weatherstripping	Commercially available.
Vapor retarders	Selected according to the provisions cited in ASTM ¹ C755-97. Permeance not greater than 1 perm when determined according to the desiccant method described in ASTM E96-00.
Items to improve attic ventilation	Commercially available.

¹ ASTM indicates American Society for Testing and Materials.

D.8. Heat Exchangers

[Standards For Conformance]

Heat exchangers, water-to-water and steam-to-water	ASME ¹ Boiler and Pressure Vessel Code, 1998, Sections II, V, VIII, IX, and X, as applicable to pressure vessels. Standards of Tubular Exchanger Manufacturers Association, Eighth Edition, 1999.
Heat exchangers with gas-fired appliances ²	ANSI/UL ³ 462, Ninth Edition, approved by ANSI February 28, 1997.

¹ ASME indicates American Society for Mechanical Engineers.

² The heat reclaimer is for installation in a section of the vent connector from appliances equipped with draft hoods or appliances equipped with powered burners or induced draft and not equipped with a draft hood.

³ ANSI/UL indicates American National Standards Institute/Underwriters Laboratories.

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D.9. Boiler/Furnace Control Systems

[Standards For Conformance]

Automatic set back thermostats	Listed by UL ¹ . Conformance to NEMA ² DC3-1989 (R1996).
Line voltage or low voltage room thermostats	Listed by UL. Conformance to NEMA DC3-1989 (R1996).
Clock thermostats	Listed by UL. Conformance to NEMA DC3-1989 (R1996).
Automatic gas ignition systems	ANSI ³ Z21.21-2000. AGA ⁴ Laboratories Certification Seal.
Energy management systems	Listed by UL.
Hydronic boiler controls	Listed by UL.
Other burner controls	Listed by UL.

¹ UL indicates Underwriters Laboratories.

² NEMA indicates National Electrical Manufacturers Association.

³ ANSI indicates American National Standards Institute.

⁴ AGA indicates American Gas Association.

D.10. Water Heater Modifications

[Standards For Conformance]

Insulate tank and distribution piping	(See insulation section of this appendix)
Install heat traps on inlet and outlet piping	Applicable local plumbing code.
Install/replace water heater heating elements	Listed by UL ¹ .
Electric, freeze-prevention tape for pipes	Listed by UL.
Install stack damper, gas-fueled	ANSI ² Z21.66-1996, including Exhibits A & B, and ANSI Z223.1-1999 (same as NFPA ³ 54-1999).
Install stack damper, oil-fueled	UL 17, Third Edition, 1994, NFPA 31-2001, NFPA 211-2000 (same as ANSI A52.1), and ANSI/NFPA 70-1999 (same as IEEE ⁴ National Electrical Code).
Install water flow modifiers	Commercially available.

¹ UL indicates Underwriters Laboratories.

² ANSI indicates American National Standards Institute.

³ NFPA indicates National Fire Prevention Association.

⁴ IEEE indicates Institute of Electrical and Electronics Engineers.

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D.11. Replacement Water Heaters

[Standards For Conformance]

Electric(resistance) water heaters	10 CFR ¹ 430 and UL ² 174. Minimum .94 EF is required for non-mobile home replacement units. Minimum .90 EF, rated for mobile homes, is required for mobile home replacement units.
Heat Pump water heaters	UL 1995, Second Edition, 1995. Electrical components to be listed by UL.
Gas water heaters:	Minimum .61 EF is required for non-mobile home replacement units. Minimum .59 EF rated for replacement in mobile homes, is required for mobile home replacement units.
Rated ≤ 75 kBtu/hr	10 CFR 430 and ANSI ³ Z21.10.1-1998.
Rated ≥ 75 kBtu/hr	ANSI ³ Z21.10.1-1998.
Oil water heaters	UL 732, Fifth Edition, 1995.

¹ CFR indicates Code of Federal Regulations.

² UL indicates Underwriters Laboratories.

³ ANSI indicates American National Standards Institute.

D.12. Solar Water Heating Systems

[Standards For Conformance]

Solar water heating systems including forced circulation, integral collector storage, thermo-syphon, and self-pumping systems	System must be certified per SRCC ¹ OG 300, July 16, 1998.
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¹ SRCC indicates Solar Rating and Certification Corporation.

D.13. Waste Heat Recovery Devices

[Standards For Conformance]

Desuperheater/water heaters Condensing heat exchangers	ARI ¹ 470-1995 and UL ² 1995, Second Edition. Commercially available components installed per manufacturers' specification. NFPA ³ 211-2000 (same as ANSI A52.1) may apply in certain instances. See also Heat Exchangers section of this appendix.
Heat pump water heating heat recovery systems	UL 1995, Second Edition, 1995. Electrical components to be listed by UL.
Energy recovery equipment	Energy Systems Analysis and Management, 1997 (SMACNA ⁴).

¹ ARI indicates Air Conditioning and Refrigeration Institute.

² UL indicates Underwriters Laboratories.

³ NFPA indicates National Fire Prevention Association.

⁴ SMACNA denotes Sheet Metal and Air Conditioning Contractors' National Association.

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D.14. Boiler Repair and Modifications/Efficiency Improvements

[Standards For Conformance]

Install gas conversation burners	ANSI ¹ Z21.8-1994 (for gas- or oil-fired systems), ANSI Z21.17-1998, and ANSI Z223.1-1999 (same as NFPA 54-1999). AGA ² Laboratories Certification Seal.
Replace oil burner	UL ³ 296, Ninth Edition, 1994 and NFPA ⁴ 31-2001.
Install burners (oil/gas)	ANSI Z223.1-1999 for gas equipment and NFPA 31-2001 for oil equipment.
Re-adjust boiler water temperature or install automatic boiler temperature reset control	ASME ⁵ CSD-1-1998, ANSI Z223.1-1999, and NFPA 31, 2001.
Replace/modify boilers	ASME Boiler and Pressure Vessel Code, 1998, Section II, IV, V, VI, VIII, IX, and X. Boilers must be Hydronics Institute Division of GAMA equipment.
Clean heat exchanger, adjust burner air shutter(s), check smoke number on oil-fueled equipment. Check operation of pump(s) and replacement filters.	Per manufacturers' instructions.
Replace combustion chambers	Refractory linings may be required for conversions.
Replace heat ex-changers, tubes	Protection from flame contact with conversion burners by refractory shield.
Install/replace thermostatic radiator valves	Commercially available. One-pipe steam systems require air vents on each radiator; see manufacturers' requirements.
Install boiler duty cycle control system	Commercially available. ANSI/NFPA 70-1999 (same as IEEE National Electrical Code) and local electrical code provisions for wiring.

¹ ANSI indicates American National Standards Institute.

² AGA indicates American Gas Association.

³ UL indicates Underwriters Laboratories.

⁴ NFPA indicates National Fire Prevention Association.

⁵ ASME indicates American Society for Mechanical Engineers.

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D.15. Heating and Cooling System Repairs and Tune-ups/Efficiency Improvements

[Standards For Conformance]

Install duct insulation Reduce Input of burner; derate gas-fueled equipment Repair/replace oil-fired equipment Replace combustion chamber in oil-fired furnaces or boilers Clean heat exchanger and adjust burner; adjust air shutter and check CO ₂ and stack temperature. Clean or replace air filter on forced air furnace Install vent dampers for gas-fueled heating systems Install vent dampers for oil-fueled heating systems Reduce excess combustion air: A: Reduce vent connector size of gas-fueled appliances B: Adjust barometric draft regulator for oil fuels	ASTM ¹ C612-00 (see insulation sections of this appendix). Local utility company and procedures if applicable for gas-fueled furnaces and ANSI ² Z223.1-1999 (same as NFPA ³ 54-1999) including Appendix H. NFPA 31-2001. NFPA 31-2001. ANSI Z223.1-1999 (same as NFPA 54-1999) including Appendix H. Applicable sections of ANSI Z223.1-1999 (same as NFPA 54-1999) including Appendix H, I, J, and K. ANSI Z21.66-1996 and Exhibits A&B for electrically operated dampers. Applicable sections of NFPA 31-2001 for installation and in conformance with UL ⁴ 17, Third Edition, 1994. ANSI Z223.1-1999 (same as NFPA 54-1999) part 9 and Appendices G & H. NFPA 31-2001 and per furnace and boiler manufacturers' instructions.
Replace constant burning pilot with electronic ignition device on gas-fueled furnaces or boilers. Readjust fan switch on forced air gas-or oil-fueled furnaces Replace burners Install/replace duct furnaces (gas) Install/replace heat pumps Replace air diffusers, intakes, registers, and grilles Install/replace warm air heating metal ducts Filter alarm units	ANSI Z21.71-1993. Applicable sections and Appendix H of ANSI Z223.1-1999 (same as NFPA 54-1999) for gas furnaces and NFPA 31-2001 for oil furnaces. See install burners (oil/gas). ANSI Z223.1-1999 (same as NFPA 54-1999). ARI ⁵ 210/240-1994. UL 1995, Second Edition, 1995. Commercially available. UL 181, Ninth Edition, 1996, including UL 181A, Second Edition, 1994 and 181B, First Edition, 1995. Commercially available.

¹ ASTM indicates American Society for Testing and Materials.

² ANSI indicates American National Standards Institute.

³ NFPA indicates National Fire Prevention Association.

⁴ UL indicates Underwriters Laboratories.

⁵ ARI indicates Air Conditioning and Refrigeration Institute.

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D.16. Replacement Furnaces, Boilers, and Wood Stoves

[Standards For Conformance]

Chimneys, fireplaces, vents and solid fuel burning appliances Gas-fired furnaces	NFPA ¹ 211-2000 (same as ANSI ² A52.1). Replacement heating systems must be Energy Star qualified. ANSI Z21.47-1998 and ANSI Z223.1-1999 (same as NFPA 54-1999).
Oil-fired furnaces	UL ³ 727, Eighth Edition, 1994 and NFPA 31-2001.NFPA 58-2001.
Liquefied petroleum gas storage Ventilation fans: Including electric attic, ceiling, and whole-house fans	NFPA 58-2001. Energy Star qualified when available, UL 507, Ninth Edition, 1999.

¹ NFPA indicates National Fire Prevention Association.

² ANSI indicates American National Standards Institute.

³ UL indicates Underwriters Laboratories.

D.17. Air Conditioners and Cooling Equipment

[Standards For Conformance]

Air conditioners: Central air conditioners Room size units Other cooling equipment: Including evaporative coolers, heat pumps, and other equipment	Replacement air conditions must be Energy Star qualified. ARI ¹ 210/240-1994, SEER Rating of 13. ANSI/AHAM ² RAC 1-1992 UL ³ 1995, Second Edition, 1995.
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¹ ARI indicates Air Conditioning and Refrigeration Institute.

² ANSI/AHAM indicates American National Standards Institute/Association of Home Appliance Manufacturers.

³ UL indicates Underwriters Laboratories.

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D.18. Screens, Window Films, and Reflective Materials

[Standards For Conformance]

Insect screens	Commercially available
Window films	Commercially available
Shade screens:	
Fiberglass shade screens	Commercially available
Polyester shade screens	Commercially available
Rigid awnings:	
Wood rigid awnings	Commercially available
Metal rigid awnings	Commercially available
Louver systems:	
Wood louver awnings	Commercially available
Metal louver awnings	Commercially available
Industrial-grade white paint used as a heat-reflective measure on awnings, window louvers, doors, and exterior duct work (exposed)	Commercially available

D.19. Refrigerators

[Standards For Conformance]

Refrigerator/freezers (does not include freezer-only units)	Replacement refrigerators must be Energy Star qualified. UL ¹ 250. Replaced units must be disposed of properly per Clean Air Act 1990, Section 608, as amended by 40 CFR ² 82, May 14, 1993.
Freezers (stand alone)	Replacement freezers must be chest type, Energy Star qualified UL ¹ 250. Replacement units must be disposed of properly per Clean Air Act 1990, Section 608, as amended by 40 CFR ² 82, May 14, 1993

¹ UL indicates Underwriters Laboratories.

² CFR indicates Code of Federal Regulations.

D.20. Fluorescent Lamps and Fixtures

[Standards For Conformance]

Compact fluorescent lamps (CFL)	Energy Star qualified, ANSI/UL ¹ 542, Seventh Edition, February 6, 1997 and UL 1993, First Edition, 1993.
Fluorescent lighting fixtures	UL 1570, Fourth Edition, 1995.

¹ ANSI/UL indicates American National Standards Institute/Underwriters Laboratories.

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Chapter 6 Measures Lists

A. Required Measures List For 1 – 4 Unit Buildings

Use the Required Measures List for 1-4 Unit Buildings (Appendix A) to determine the weatherization measures for non-mobile home 1-4 unit buildings. The determination of when to install specific measures, the protocols that guide those installations, and the standards for those installations are outlined in several places: Appendix A: 1-4 Unit Measure List; B: 1-4 Unit Specifications & Standards; the Weatherization Field Guide; and the NEAT Manual: Wisconsin NEAT Parameters and Protocols.

A.1. Computerize Energy Audit: 1-4 Unit Buildings: NEAT

The State of Wisconsin uses the National Energy Audit Tool (NEAT) to select measures for atypical housing stock, or to test specific measures.

The NEAT Audit must be used for measures in the following circumstances:

- 1) Where the auditor feels the unit does not fit into the parameters of the Required Measures List.
- 2) Any unit where a boiler replacement is an option.
- 3) Where exterior foundation insulation is a potential retrofit. Typically where foundations are slab-on-grade, conditioned basements with foundations having more than 30" exposed height, or where inaccessible heated crawlspaces exist.
- 4) Where window and door replacement meet the WI WAP Specifications and Standards criteria for replacement and are not an eligible health and safety measure. Windows may be modeled as an energy conservation measure or a repair (using the itemized cost tab). Doors must be modeled as a repair.

The Division has developed NEAT parameters and protocols for use in Wisconsin. Those must be followed when using the NEAT Audit (See the NEAT Manual: Wisconsin NEAT Parameters and Protocols).

B. Required Mobile Homes Measures List

Use the Required Measures List for Mobile Homes (Appendix C: Mobile Homes Measures List) to determine the weatherization measures for manufactured housing units. The determination of when to install specific measures, the protocols that guide those installations, and the standards for those installations are in several places; Appendix D: Mobile Home Specifications & Standards and the Weatherization Field Guide.

C. Required Measures In 5+ Unit Buildings

Use the Required Measures List for 5+ Unit Buildings (Appendix E: Required Multi-Family (5+) Unit Buildings Measures) to determine the weatherization measures for 5+ unit buildings. The determination of when to install specific measures, the protocols that guide those installations, and the standards for those installations are outlined in Appendix E: Multi-Family 5+ Unit Measures. For guidance on installations that are similar to single family dwellings refer to Appendix B: 1-4 Unit Specifications & Standards and the Weatherization Field Guide..

C.1. Engineering Study for 5+ Unit Buildings

As an alternative to using the Required Measures List for 5+ Unit Buildings, the Division allows grantees to commission a mechanical engineer (or other qualified individual as determined by the Division) to develop a energy retro-fit plan for the building. The plan must include energy payback calculations (SIR of 1 or greater) to justify the energy conservation measures. Prior written approval from the Division is

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required before any 5+ unit building can be weatherized using substitute payback calculations (also see Chapter 3. A.). Any building weatherized utilizing a substitute payback calculation must be charged to either the LIEAP or Public Benefit fund sources.

D. Building Diagnostic Testing

Building diagnostic testing covers blower door testing, zone pressure diagnostic testing, depressurization, and worst case draft testing. Guidelines for building tightness or ventilation and cost effective sealing are also included in this category. Blower door tests, cost-effective sealing guidelines, building tightness limits or ventilation calculations, and combustion safety tests must be performed on every dwelling unless the site conditions limit the effectiveness of the test. Document all variances from this requirement.

These guidelines are available on the TI-86 calculator pre-programmed with the ZipTest Pro2™ software. Equivalent programs may be used with the approval of the Energy Assistance Bureau. Diagnostics tests must be performed under the conditions outlined below. All test results must be documented on the required forms: The Blower Door Tests and Sealing Summary; and the Building Diagnostics and Combustion Safety Test Form. Both forms are available on the HomeEnergy Plus Website <http://homeenergyplus.wi.gov/category.asp?linkcatid=494&linkid=122&locid=25>. Grantees are expected to have a sufficient number of trained staff to perform these tests. Additional information on combustion safety testing is also included in the Weatherization Field Guide.

The Depressurization (DTL) tests and worse case draft (WCD) test must be used prior to installing any exhaust ventilation and whenever a dwelling has atmospheric combustion appliances, including gas or wood fireplaces or space heaters. At the close of weatherization work the building must not be below the final DTL maximum CFM50 building limit. See the Weatherization Field Guide for further information on the diagnostic and combustion safety testing, guidelines for flue drafts and depressurization guidelines.

D.1. Blower Door Guided Sealing

Perform a blower door tests on each dwelling unit. Follow the recommended protocol and procedures included in the Weatherization Field Guide, Section 2, Diagnosing Shell air leakage and the Appendices. Document the following blower door tests and sealing work on the Blower Door Test and Sealing Work form. (Form may be found at <http://homeenergyplus.wi.gov/category.asp?linkcatid=494&linkid=122&locid=25>).

The **As Is Blower Door Test** is the test completed prior to any work being done to the building. Do this test prior to any work on the building. This test documents the overall leakiness of the building before weatherization work starts and the existing conditions. This test helps to identify if some sealing is required in order to get an accurate blower door test. This type of sealing work is called **Non-Guideline Sealing**. It is performed prior to running the Weatherization Cost-Effective Guidelines. Examples of non-guideline sealing include installing windows where missing, sealing gross holes in the building envelope and sealing key junctures like where the interior floors meet the walls in balloon framed house for sidewall insulation.

The **Pre-Blower Door Test** is taken after any non-guideline sealing is done. This is the initial test for the Weatherization Cost-Effective Guidelines (WCEG). WCEG Program on the TI-86 tells the amount of leakage reduction needed to be cost-effective during a certain amount of time. This is based on what it costs to heat the house and what it costs to do sealing work. This sealing work is called **Guideline Sealing**. Guideline Sealing typically includes sealing holes in between the house and the attic (bypasses and exfiltration) and the basement and outside (infiltration) first. Installers should periodically check to make sure their sealing is cost-effective. If the sealing is cost-effective the WCEG program will indicate "continue sealing". If the WCEG program indicates that sealing is not cost-effective the program will indicate "STOP sealing work", and if the installers agree, sealing work should stop and the **Guideline Sealing** work is completed. Document results and labor hours in the Blower Door and Sealing Work Form.

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Comfort Sealing is performed when blower door testing cannot be performed. Comfort Sealing work is limited to probable attic bypass and key junctures, glass repair or replacement, and miscellaneous sealing that will affect the occupants comfort. Comfort sealing and miscellaneous sealing work must not exceed one labor hour. The reason for not testing must be documented on the required form.

Zone Pressure Diagnostics Testing will be used whenever appropriate. Always complete Zone Pressure Diagnostics when the building has an attached garage. Other conditions when it may be appropriate to complete Zone Pressure Diagnostics include:

- 1) Health and safety problems related to a poor pressure envelope/air barrier.
- 2) Structural moisture problems related to heat escaping into unheated zones.
- 3) High fuel consumption not obviously linked to lack of insulation or the heating plant.
- 4) A high pre-CFM50 blower door test.
- 5) Multiple zones where determining linkage between zones or identifying sealing priorities is necessary.

Use the Zone Pressure Testing Form to document the testing results. The form is available on the HOMEEnergy Plus website

<http://homeenergyplus.wi.gov/category.asp?linkcatid=494&linkid=122&locid=25>.

E. Water Heater Replacement

Water heaters may be replaced based on the age of the equipment and, in some cases, the number of people in the household. Fuel switching of the water heater is also allowed in some cases. The specific details are outlined in the Weatherization Field Guide.

F. Electric Heat Conversion

Grantees may convert electric heat to another fuel based on savings to investment ratio that is equal to or greater than 1.0. The Electric Fuel Switch Calculator Worksheet must be completed electronically to calculate the savings to investment ratio. The worksheet is available on the Home Energy Plus website (<http://homeenergyplus.wi.gov/category.asp?linkcatid=494&linkid=122&locid=25>). The worksheet results must be printed and retained in client file. If the costs for the replacement heating system exceed \$6,000 a waiver must be obtained from the Division. Waiver requests must be submitted electronically via e-mail to the Energy Help Desk (heat@doa.state.wi.us). Attach a completed copy of the Electric Fuel Switch Calculator to the e-mail. A copy of the waiver must be kept in the client file.

G. Freezer Exchange and Removal

Exchanging freezers in single family units is allowed based on the metered power factor for the existing operating freezer and the location of the freezer. The freezer must be exchanged for a properly sized Energy Star unit. Existing functional freezers which are not exchanged may be removed with an incentive payment. Details for exchanging or removing freezers are included in the Appendices B and C, Required Measures Specifications and Standards and in the Weatherization Field Guide.

H. Required Equipment

The Division requires that grantees and or their sub-contractors use professional weatherization and diagnostic equipment. A list of required Air Sealing and Combustion Analysis equipment and specifications are listed in the Weatherization Field Guide. This list represents the required minimum of equipment. Other equipment may be necessary to effectively and efficiently deliver weatherization services.

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Chapter 7 Financial Standards

A. General

Grantees must establish and maintain fiscal control and accounting procedures as set forth in Wis. Stats. 46.036(4). These procedures must be in writing and consistently applied. Grantees must maintain account books on a double entry basis. Accounting will be on a modified accrual basis at a minimum. Full accrual basis accounting may be used.

Maintain separate accounting for each grant (contract). There must be a system for allocating common expenses among grants (contracts).

If work is performed by the Grantee's staff, charges will be made on an actual cost basis. Grantees are required to notify the Division of any potential financial conditions that could adversely impact program operations. Examples of these conditions include pending legal activity by a vendor, client or employee; organizational cash flow shortages; allegations or investigations of fraud or embezzlement. Failure to notify the Division of these conditions is grounds for immediate termination of contract.

B. Source Documentation

Grantees must maintain at least the following documentation of funding source:

- 1) Approval to secure funds:
- 2) Applications and requests for modifications.
- 3) Signed contract and approval modifications.
- 4) Board minutes.
- 5) Proof of receipt/deposit slip:
- 6) Date.
- 7) Amount.
- 8) Source of funds.
- 9) Identification of receipt of funds in cash ledger.

C. Expenditure Documentation

Grantees must maintain at least the following documentation of expenditures:

- Written prior authorization where required:
- Budget approval.
- Budget amendment approval.
- Extension of vendor contracts.
- Internal prior authorization:
- Purchase order.
- Travel authorization.
- Employee contract or time records.
- Proof that goods or services were received:
- Time cards signed by employee and supervisor.
- Bill of lading and receipt or invoice marked "received" with initials or name of person accepting delivery.
- Proof of payment using check stubs or copies of checks/vouchers including:
- Source of funds.
- Date paid.
- Amount paid.
- Authorization of payment.

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- Identification of application in disbursement ledger.

D. Cash

Grantees must make intact deposits (no cash back).

The Division does not allow cash payments except from petty cash.

It is not necessary to keep funds from separate grants (contracts) in separate bank accounts; however, grantees must maintain separate financial records for each grant.

Grantees must perform monthly bank reconciliation.

Advances may only be used for the purchase of weatherization inventory or for other allowable costs that occur during the grant period.

Grant funds may only be used for allowable Weatherization Program expenses. Use of Weatherization Program funds for uses other than allowable Weatherization Program expenditures, even on a temporary basis, will result in immediate termination of the contract.

E. Grantee IT Requirements

The Division requires that Weatherization Program Grantees have IT equipment necessary to meet general requirements for program management and financial reporting. The computers must be PC based using a Windows Operating system. Each grantee must have reliable access to the Internet at a sufficient connection speed to meet their business requirements. Grantees must make their own hardware and software purchases.

Grantees should notify the Division when making software or hardware purchases to insure on-going compatibility. A list of the items proposed for purchase should be sent via email to the Home Energy Plus Helpdesk (heat@doa.state.wi.us).

F. Program Leasing of Grantee Owned Property

The Division will allow the leasing of grantee owned property (such as vehicles, agency operations space or equipment) to the Weatherization Program if:

- 1) Property was purchased with non-federal funds; or
- 2) Total cost does not exceed the cost of comparable property or available alternatives.

Grantees may calculate charges for the property lease using one of the following methods:

- 1) Allowance method: Charge an allowance not to exceed 2% of acquisition cost for building and improvements, including land improvements. When allowance method is used for buildings, the entire building must be treated as a single asset; the buildings components (e.g. plumbing system, HVAC, etc) cannot be segregated from the buildings shell. Grantees may compute equipment (items that are merely attached or fastened to the building but not permanently fixed to it) charges at a rate not to exceed 6 & 2/3 % of the acquisition cost; or
- 2) Depreciation method: Establish the period of useful service for each asset, taking into consideration the type of construction, nature of equipment and other factors influencing the asset's useful life. The method of depreciation used to assign the cost of an asset to an accounting period must reflect the pattern of consumption during its useful life. If there is no clear pattern of consumption, use the straight line method. Support charges for use allowance or depreciation by adequate property records, including depreciation records, for each period, if the depreciation method is used.

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In addition to the allowance and depreciation methods, the Grantee may calculate maintenance, taxes, insurance and interest into lease charges.

G. Vehicle Lease/Purchase

Vehicle purchase or lease must be based on a demonstrated need.

G.1. Vehicles Leased/Purchased From Sources Other Than the Grantee

LIHEAP or Public Benefit funds may be used to purchase vehicles. DOE or LIHEAP funds may be used to lease vehicles. Grantee must use a sealed bid process, see purchasing guidelines for purchase in excess of \$25,000 (see below), and obtain a minimum of three (3) bids. The Grantee must have possession of purchased vehicles and the invoice for the vehicles during the term of the contract when the purchase was made.

Vehicle Leases/Purchases

Vehicle lease agreements and purchases must provide for the following:

- 1) Vehicle specifications:
 - a) Age of vehicle (if other than new).
 - b) Mileage (if other than new).
 - c) Vehicle type.
 - d) Body style.
 - e) Size (1/2 ton, ton, etc.).
 - f) Engine size.
 - g) Description of vehicle's general condition (if other than new).
 - h) Early lease termination clause.
 - i) Accessories/options.
 - j) Lease/purchase conditions.
- 2) A minimum of three sealed bids from other sources for lease of similar types of vehicles for the same time period is required. NOTE: Leases with maintenance clauses may not be compared to those without them.

G.2. Vehicles Leased or Purchased From the Grantee

The Grantee may lease vehicles it owns to its weatherization operation. The Division allows rental costs to the extent that the costs are reasonable according to:

- 1) Rental costs of comparable vehicles, if any;
- 2) Market conditions in the area; and
- 3) The type, life expectancy, condition and value of the vehicle leased.

The Division allows rental costs under sale and lease-back arrangements only up to the amount that would be allowed had the Grantee continued to own the vehicle. Rental costs under leases that create a material equity in the leased property are allowable only up to the amount that would be allowed had the Grantee purchased the vehicle on the date the lease agreement was executed.

If the Grantee leases a vehicle to the Weatherization Program, charges to the Weatherization Program may not exceed the actual costs to the Grantee. Grantee costs may include purchase price, interest, lease administration charges, maintenance, etc.

If the vehicle was purchased with other federal funds, the Grantee may not charge lease costs of the vehicle to the Weatherization Program. It may be used by the Weatherization Program but not paid for a second time with federal funds. If the vehicle was purchased with non-federal and/or non-state funds, the Grantee may lease it to the Weatherization Program.

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To document the rationale for leased vehicles, keep the following information on file available for inspection:

- 1) Vehicle specifications:
 - a) Age of vehicle.
 - b) Mileage.
 - c) Vehicle type.
 - d) Body style.
 - e) Size (1/2 ton, ton, etc.).
 - f) Engine size.
 - g) Description of vehicle's general condition.
 - h) Original purchase price.
 - i) Previous use of vehicle.
 - j) Termination conditions.
- 2) An explanation of how the lease amount was computed, the methodology used and the amount of lease termination costs;
- 3) Competitive bids from other sources for lease of similar types of vehicles for the same time period.
Note: Leases with maintenance clauses may not be compared to those without them;
- 4) Justification, including detail of total lease costs compared to purchase costs.

H. Property

Property includes tools, equipment, supplies and materials. The Division and federal granting agency hold a reversionary interest in property purchased with program funds.

Title to property vests in Grantee. Grantees must maintain an asset account(s) for all consumable and non-consumable property.

Disposition must be in accordance with rules of the funding source. The Division reserves the right to transfer equipment from one Grantee to another if the equipment is found to be surplus. To accomplish this, Grantees wishing to dispose of equipment must publish a list of the item(s) electronically for a period of not less than 3 weeks. If no Grantee expresses an interest, the Grantee may dispose of the equipment using a system assuring free and open competition.

There must be a system to control losses, damages and theft. There must be a physical count each calendar quarter, which must be reconciled to the written records. Explain shortages in writing at the point of reconciliation.

The Division requires the following records for all non-consumable equipment and tools:

- 1) Description, including model number, serial number or other identification.
- 2) Source of funding.
- 3) Acquisition cost and date.
- 4) Location, use and condition of property.
- 5) Individual to whom property is assigned.
- 6) Maintenance plan for all vehicles and records of maintenance completed.
- 7) Power tools and power equipment that have maintenance needs.
- 8) Disposition date, method and amount received.

When tools are assigned to a crew, Grantees do not need to inventory the consumable tools that are usable only for one or two jobs.

I. Inventory and Asset Accounts

Grantees must maintain an asset account(s) for all consumable and non-consumable materials. There must be a costing system. The Division recommends a "first in, first out" system. There must be a written perpetual inventory system if materials are stored or stocked.

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Grantees shall maintain a master inventory record for all storage facilities. This record must include:

- 1) Summary information from each inventory log.
- 2) Quantity of materials received and disbursed during the period.
- 3) Description of materials.
- 4) Unit prices of materials.

Grantees shall also maintain an inventory log/ledger by warehouse. This log/ledger must include:

- 1) Job number.
- 2) Date of disbursement, return and receipt.
- 3) Crew person signing in or out materials.
- 4) Quantity of materials.
- 5) Description of materials.
- 6) P.O. number for all receipts.

Grantees shall take a physical count of the inventory each month. There must be a reconciliation of the physical inventory to the perpetual records and inventory asset account. Grantees shall have a system for storage, handling and protection against damages and theft.

Grantees should rotate stock to use older materials first.

J. Consumable Materials

Consumable materials are materials that are difficult to measure on a per-home basis and for which the unit purchase quantity may be used in more than one home, for example, roofing nails, turpentine, push points, etc. Consumable materials do not include supplies such as dust masks, knife blades, etc.

Grantees may use a cost allocation system for consumable materials.

Grantees must develop a consistent procedure to handle consumable materials.

K. Disposition

K.1. Liquidating Inventory

To liquidate inventory, Grantees must follow the procedures indicated below. Any charge to be made against the contract to cover losses incurred in liquidating the inventory must be approved in writing by the Division.

Contact the original vendor to see if the vendor will allow return of the items. The Division allows the sale of inventory at purchase price to other state-funded weatherization programs. You may include reasonable charges against the contract.

Identify items to be removed from inventory, including the quantity, unit price, original vendor and funding source used to purchase items.

If the items cannot be returned, you may remove the items from inventory.

Requests to dispose of inventory should include:

- ◆ Description of items to be sold and cost and quantity of items.
- ◆ Disposal methods to be used, e.g., auction, public notice or sealed bids. It is essential that the method chosen allows for open and free competition and that the general public has a chance to purchase the items.
- ◆ Cost of selling the items, not to exceed 10% of the value of items being liquidated.

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- ◆ Plans for the use of any funds recovered, e.g., to be returned to the funding source, to be used to purchase other weatherization materials.

L. Vehicle Disposition

Submit a written notice of intent to dispose of a vehicle to the Division. The notice shall include:

- 1) An explanation of why the vehicle can no longer be used in the Weatherization Program.
- 2) Description of the vehicle indicating:
 - a) Make, model, year, type, size, serial number and mileage.
 - b) Date of purchase, purchase price, Blue-Book value and appraised value (on firm's letterhead).
 - c) Contract number.
 - d) Source of funds (DOE, LIHEAP or Exxon).
 - e) Condition of vehicle, including an estimate of repair costs required to return vehicle to an operating condition.
 - f) Copy of purchase approval letter.

It is the responsibility of the grantee to properly dispose of all vehicles not being used in program operations in a timely manner.

If the vehicle was purchased with DOE or Exxon funds, the Division will request disposal instructions from the DOE Regional Office.

M. Record Keeping

Grantees must maintain financial records pertaining to a contract for three years following acceptance of the financial audit. Grantees must store their Agency Cost Files. Label each file according to time period involved.

All records maintained in accordance with operation of the Weatherization Program must be available to the Division on request for inspection, examination, excerpting, transcription or financial audit.

The Division must give prior written authorization to Grantees to permit destruction of any client file records, including WisWap records.

N. Financial Audits

Grantees must ensure that financial audits are:

- 1) Conducted annually.
- 2) Conducted by an independent auditor.
- 3) Timely.
- 4) Submitted to the Division as soon as available. Grantees should supply 2 copies of the audit. Submit one copy to the contract administrator. Mail the second copy to:

Single Audit Coordinator
DOA Division of Administrative Services
101 E. Wilson Street
P.O. Box 7869
Madison, WI 53707-7869

- 5) Conducted in accordance with federal laws and regulations, OMB Circular A-133 and the State Single Audit Guidelines issued by the Wisconsin Department of Administration.
- 6) Single audit report should include:
 - a) Audited financial statements.
 - b) Schedule of financial assistance, including a breakdown of all State grants awarded to entity and total cash received for the period under audit.

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- c) Schedule comparing budgeted to actual expenditures, by funding source, including program income, for each Weatherization contract that was in force during the period. The schedule should show prior audited expenditures and contract-to-date audited expenditures. Expenditures must be detailed by funding source and major budget category as set forth in the contract budget. The comparative schedule should be included in the scope of the Independent Auditor's Report on Supplementary Information.
- d) Schedule of Findings and Questioned Costs.
- e) Management letter, if one is issued, along with management's response and/or corrective action plan.
- 7) Compliance requirements and suggested audit procedures:
 - a) Determine the effectiveness of management controls and the fiscal integrity of the financial system.
 - b) Determine whether the Grantee is in compliance with the terms and program requirements as set forth in the Weatherization contract and the DOA Weatherization Manual.
 - c) Determine whether reports issued to DOA are accurate and complete, including financial and production data.
 - d) Determine whether expenditures are properly classified in accordance with the Weatherization contract and that they are allowable costs as set forth in the Weatherization Manual and Federal Regulations.
 - e) Determine that administration expenses were limited to the appropriate percentage of expended dollars as stated in the contract.
 - f) Determine whether inventories are properly maintained and safeguarded.
 - g) Determine whether materials inventory and materials installed were properly valued.
 - h) Audit requirements and procedures published in OMB's Compliance Supplement for Audits of State and Local Governments or OMB's Compliance Supplement for Audits of Institutions of Higher Learning and Other Non-Profit Institutions.

Selection of the audit firm must comply with procurement requirements.

There must be a method for resolving questioned costs.

O. Job Cost Reduction

Job cost reduction funds are defined as the gross income earned during the contract year by the Grantee from grant-supported activities. Weatherization resources cannot be used to earn income from activities not permitted by program rules. Job cost reduction funds must be spent on allowable Weatherization Program activities. These activities are subject to the same regulations and conditions as other Weatherization Program funds.

O.1. Job Cost Reduction Expenditures

- 1) Job cost reduction funds must be used in the grant year earned.
- 2) Must be spent on the same measure that generated the fund.
- 3) Must be reported in WisWap when the work is completed along with any other funds used for the measure.

O.2. Records

Grantee must maintain financial records of job cost reduction funds earned and spent, by grant year, the source and amount.

Note: Records of the expenditure of job cost reduction funds must follow the same general guidelines as grant funds.

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P. Interest Income

Interest income is income earned resulting from advances of program funds. Grantee must maintain records of interest income by grant year and must report it monthly on the appropriate Weatherization Expenditure Report. DOE interest earned over \$250.00 must be returned to the State quarterly (Federal Regulation 10CFR60C). Checks must be made out to the U.S. Department of Energy and submitted to the Division of Energy. Interest earned on LIHEAP and Public Benefits may be retained by the Grantee for program purposes.

Q. Procurement Procedures

Grantees must use the following procurement procedures.

- 1) Maintain a code, or standard of conduct, that will govern the performance of its officers, employees or agents engaged in the awarding and operation of contracts.
- 2) Conduct all procurement transactions in a manner to provide, to the maximum extent practical, open and free competition.
- 3) The vendor selected must be responsive and responsible, and then selected based on low cost (the one with the lowest reasonable bid).
- 4) All bids are subject to open records requirements once the bid process is complete and contracts are executed with a vendor. There may be exceptions to this 'availability' sequence; all open records requests are determined on a case-by-case basis.
- 5) Grantees must establish written procurement procedures that are approved by the Department at least every 24 months. The procurement procedures must meet minimum OMB requirements. These requirements include procedures for ensuring that:
 - a) Unnecessary or duplicated items are not purchased.
 - b) Solicitations for goods and services are based on a clear and accurate description of the technical requirements for the material, product or service to be procured.
 - c) Effort is made to utilize small businesses, minority-owned businesses and women-owned businesses. (See Affirmative Outreach section.)
 - d) Contracts are made only with responsible contractors who possess the ability to perform successfully under the terms and conditions of a proposed procurement.
 - e) Some form of price or cost analysis is made in connection with every procurement action and procurement records should contain information to show that grantee has met the requirements in this Chapter.
 - f) Sealed bids are submitted when the total annual procurements from a vendor are expected to exceed \$25,000.
- 6) Procurement records and files for purchases in excess of \$25,000 to one vendor must also include documentation of Affirmative Outreach efforts and a copy of the Notice of Intent to request bids.

Q.1. Purchases of \$5,000 or Less

For purchases of \$5,000 or less, Grantees may select the vendor best able to supply the goods or services. Consider the following when selecting a vendor:

- 1) Location of delivery point.
- 2) Quality of goods/service to be supplied.
- 3) Price.
- 4) Conformity with specifications and standards.
- 5) Purpose for which the goods/services are required.
- 6) Date of delivery.

Q.2. Purchases over \$5,000 through \$25,000

For purchases over \$5,000 through \$25,000, Grantees must obtain bids from at least three bidders. These bids may be:

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- a) Price quotes.
- 7) Quotes on file (e.g. catalog, etc.).
- 8) Telephone or other oral quotes:
 - a) Must include the name of the firm and individual, date, price quote, delivery information and anything else that is pertinent.
 - b) When quote is accepted, the bidder must confirm in writing.
- 9) Written bids
- 10) Document all bids on a written quotation bid summary form. The form may be any format you wish; however, it must contain information showing the basis for your selection (e.g., low cost, delivery terms, etc.).

Q.3. Purchases Over \$25,000

- 1) For purchases over \$25,000, Grantees must use the sealed bid process. Grantees may select more than one vendor based on the bid specifications. Grantees must use the Boilerplate Wx request for bid (RFB) document provided by DOA, Division of Energy (see Section Q.5. Bid Procedures).
- 2) A one-year extension of a contract is allowed if notice was given in the original bid specifications and the Department grants prior written approval on the extension.
- 3) Grantees must publish a Notice of Intent to request bids in a local and/or trade publication. Maintain copies of the notice with procurement records.
- 4) **Affirmative Steps.** Include these steps in the outreach and design of the bid package.
 - a) Grantees must follow the Affirmative Step requirements identified in 10 CFR 600, Subpart C, 600.236(e)(2)(i) to ensure that "small and minority firms, and women's business enterprises" have the opportunity to bid. Affirmative steps shall include:
 - i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
 - ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
 - iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;
 - iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;
 - v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and
 - vi) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (e)(2) (i) through (v) of this section.
 - b) Affirmative Action Definitions:
 - i) "Small business" means a business which has had less than \$1.5 million in gross annual sales in the most recent calendar or fiscal year. Wis. Stats. 16.75(4)
 - ii) Women's business enterprises: "Female owned business" means a business that is at least 51% owned, controlled and actively managed by a woman or women. Wis. Adm. Code ILHR 830.02(14)
 - iii) Minority firms/businesses/enterprises: "Minority business enterprise" is a business certified by the Department of Development under s. 560.036(2). "Minority group member" means any of the following: Black American, Hispanic American, American Indian, Eskimo, Aleut, native Hawaiian, American Asian-Indian, and an American of Asian-Pacific origin. Wis. Stats. 16.75(3m)
 - c) Documentation that shows that the Agency followed the Affirmative Steps is required as part of the procurement file. At a minimum, such documentation shall include a copy of the solicitation list developed/used for each procurement and a print-out of the search results for certified MBE businesses from the DOA Minority Business Program website:
http://www.doa.state.wi.us/deo/mbe/minority_search.asp? Note that the website must be re-checked for each procurement because new MBE vendors are added on a regular basis.

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- 5) **BID/ PERFORMANCE BONDS:** In order to support the Affirmative Steps, the use of bid and/or performance bonds is not allowed unless an agency has provided written justification in advance, and receives Department approval for such an exception prior to letting the Request for Bid.
- 6) **CONTRACT COMPLIANCE/AFFIRMATIVE ACTION PLAN:** Just as grantees are subject to this requirement, so are their contractors and subs (over \$25,000). Grantees must supply the contact information for their contractors and subs (regardless of size) within 5 working days of an executed contract to Contract Compliance/Affirmative Action Officer, DOAS, PO Box 7869, Madison, WI 53707-7869. FAX 608-264-9500, (Street address is 101 E. Wilson, 9th Floor, Madison, WI 53702.)
- 7) **MINORITY PARTICIPATION GOAL** Grantees are subject to the requirements identified in WI Statute 16.75(3m)(b) .
 - a) Grantees shall provide the DOA-Division of Energy with an **ACTION PLAN for Reaching Minority Participation Goal** on an annual basis. This plan will identify the estimated goal dollar amount of goods and services purchased out of the annual weatherization contract amount (x 5% = goal) and indicate what actions will be taken to achieve this goal. Plans should be submitted to:

State Department of Administration
DOA Division of Energy
PO Box 7868
Madison, WI 53707-7868
 - b) Grantees must include as part of their close-out report their agency's progress (using weatherization dollars) toward attaining this goal. Reporting forms are available on the HOME Energy Plus website (http://homeenergyplus.wi.gov/section_detail.asp?linkcatid=623&linkid=122&locid=25&sname=Grantee%20Information).
 - c) Grantees will decide on a case-by-case basis whether their subcontractors (receiving \$25,000+) will be formally working toward the agency's 5% goal and reporting progress quarterly. If grantees choose to require reporting from their subcontractors, they must provide them with the reporting form (available from the Division of Energy; this form is different from the form the Agency uses to report to DOA).
- 8) **MINORITY PRICE PREFERENCE:** Qualified bids from certified Minority Business Enterprises (MBE) may be provided up to a five percent (5%) bid preference in accordance with Wis. Stats. s.16.75(3m).
 - a) Take the lowest bid and add 5% to it; if a MBE-certified bidder's price is within that amount, the MBE firm gets the bid. For example, low bid = \$1,000; take $\$1,000 \times 1.05 = \$1,050$. If an MBE firm has a bid of \$1,050 or less, they get the bid. For more information on this topic, see VendorNet's website, Policy number PRO-D-1: <http://vendornet.state.wi.us/vendornet/procman/prod1.asp>.
 - b) Cases in which the preference is NOT applied should be the exception. One example is an MBE-certified contractor who has a documented history of non-performance with the agency and has, consequently, been removed from the Agency bidder's list. Such a contractor cannot be prevented from submitting a bid, but no preference would be applied.
 - c) Another example is a low bid of \$1,000; take $\$1,000 \times 1.05 = \$1,050$. The MBE firm has a bid of \$1,020; in this case, the preference is 2%.
- 9) **BID OPENING:** See VendorNet, PRO-C-5, IX. Public opening and reading of bids, SOURCE: <http://vendornet.state.wi.us/vendornet/procman/proc5.asp> .

Q.4. Aggregate Purchases

When the total aggregate purchases from a vendor are expected to exceed \$25,000 Grantees must use the sealed bid process. This aggregate total is for the term of the weatherization contract. Grantees may select more than one vendor based on the bid specifications.

Q.5. Bid Procedures

Bid procedures must:

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- 1) Set the specifications for goods or services to be acquired.
- 2) Require materials and installation standards for weatherization materials that meet or exceed the standards set forth in the Weatherization Manual, annual contract requirements, or 10 CRF Part 400, Appendix A, whichever is more restrictive. Grantees must ensure that bidders have easy access to these standards by providing standards as part of the bid package. If the Agency is exceeding the standards in the Weatherization Manual, written permission is required.
- 3) Include language that clearly prohibits a cost-plus percentage of cost-type pricing.
- 4) Specific brand names cannot be requested by the agency.
- 5) Boilerplate Wx RFB. Grantees are required to use the Boilerplate Wx Request for Bid document for purchases over \$25,000. If any modification to this document is made, an agency must get prior written approval from the Department. The boilerplate includes Special conditions, standard conditions and supplemental conditions as appendices. By reference, Grantees and their contractors must meet all applicable requirements identified in these documents.
- 6) Fax bids and email bids. Facsimile bids are not allowed. Grantees may propose a system for accepting email bids and would need Department approval prior to implementation.

Q.6. Purchase Orders

- 1) The Division does not permit blanket purchase orders. There must be a purchase order for each purchase including:
 - a) Quantity;
 - b) Unit price;
 - c) Maximum amount;
 - d) Authorization signature;
 - e) Date.
- 2) There must be a purchase order log, a record of all obligations and a way to identify unpaid obligations.
- 3) There must be approval by an authorized person before the purchase is made.
- 4) Grantee must make timely payments to vendors as follows: :

The Agency will pay properly submitted vendor invoices within thirty (30) days of receipt providing goods and/or services have been delivered, installed (if required), and accepted as specified. Grantees do not need to meet the 30 day requirement when invoices are contested.

Invoices presented for payment must be submitted in accordance with instructions contained on the purchase order including reference to purchase order number and submittal to the correct address for processing.

A good faith dispute creates an exception to prompt payment.

Q.7. Grantee Responsibilities Regarding Property Improvements Through Sub-contractors

Grantees subcontracting under WAP for any improvement to a property in which the address for the improvement is identified to the vendor must inform the vendor of the following:

- 1) The only recourse for payment is the weatherization agency and that by agreeing to perform weatherization work the Vendor agrees to the following terms and agrees to pass along the following requirements to their suppliers and any subcontractors:
 - a) The Vendor agrees that they will not, under any circumstances, seek payment from the owner or occupant of the premises improved.
 - b) The Vendor shall not file, suffer or permit any lien or other encumbrance of record as a claim against any site of a weatherization project in recognition that the only recourse for payment is from the weatherization agency.
 - c) Signed lien waivers for each individual work location/property are required (when the property to receive the improvement is identified) from all parties providing any labor and materials, including the Vendor. The Vendor agrees to inform any party supplying labor and/or material to an

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identified property, prior to engaging such parties in providing weatherization services, that lien waivers are required in order for the Vendor to invoice the weatherization agency for the job.

- d) Any lien notice action by a Vendor, and/or any of their subcontractors and/or material suppliers, against a property owner will be considered non-performance by the terms and conditions of this contract, and the Vendor will be removed from the statewide weatherization agency bidder's list for a period of 2 to 5 years, as will any subcontractors and suppliers that take such action.
- 2) **PAYMENTS OWED BY VENDOR:** By engaging in a contract with the weatherization agency, the Vendor agrees that if they do not pay for materials and labor taking place through this weatherization contract, the weatherization agency has the option to use payments owed to the Vendor to pay such subcontractors and suppliers.

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Chapter 8 Allowable Costs

A. General

This chapter provides a description of the costs the Division allows for each budget line. The following general principles apply:

Grantee shall expend funds provided under this Agreement in conformance with the approved Budget and Annual Contract Planning Goals spreadsheet, and the following limitations:

- 7) Administration expenditures shall not exceed the amount per funding source and total administrative expenditures shall not exceed the contracted percent of total actual allowable expenditures.
- 8) DOE Health and Safety budget line shall not be overspent.
- 9) T&TA funds shall not be overspent or, under expenditures shall not be moved to other lines.
- 10) Public Benefit funds may only be used in territories being served by a retail electric utility that is collecting fees and participating in the state Public Benefits Program under s.16.975, Wis. Stats.
- 11) Funds cannot be transferred between funding sources.

Other than specified above, line items that have positive balances may cover cost overruns in other line items. The costs must be in accordance with pertinent state and federal regulations.

- 1) All costs charged to a contract must fall within the contract period. The only exceptions are the fiscal and compliance audits which, even though the expense relates to a prior contract period, should be charged to the current contract.
- 2) Expenditures incurred for the installation of allowable measures on completed units shall be reimbursed under the contract year the units are reported as completed. Costs for the installation of allowable measures may be accrued prior to the contract year in which the completed unit will be reported, and then reimbursed when the unit is reported as complete. (Advance funds shall not be used to cover these costs) To avoid disallowed costs, care should be taken to ensure that all measures are active and allowable under the subsequent contract.

A.1. Disallowed Costs

Disallowed costs are expenses, as determined by the Division, which are not reimbursable using grant funds. If the Division cannot determine if expenditure is allowable, because of inadequate records or documentation, the questioned cost will be disallowed. Grantees shall reimburse the Division for the amount of any disallowed items.

A.2. Interest Expense

Interest charges are not allowable expenses for DOE funds. Interest charges are allowable expenses using LIHEAP and Public Benefits funds.

A.3. Rework Expense

Rework expenses are disallowed costs except when specifically authorized by the Division.

B. Administration

Total Grantee administrative expenses shall not exceed the contracted percent of total actual allowable expenditures.

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Under administration, the Grantee may charge salaries and fringe benefits for weatherization related personnel. For agency-wide positions, Grantees may charge only the portion of salaries and benefits that can be directly allocated to the Weatherization Program.

The Division allows, as administrative expenses, such items as:

- 1) Space;
- 2) Supplies (paper, pencils, etc.);
- 3) Furniture;
- 4) Operational equipment, i.e., typewriters, photocopy machines, etc.;
- 5) Computer systems and supplies;
- 6) Telephone;
- 7) Postage;
- 8) Copying;
- 9) Utilities (weatherization share);
- 10) Training, including state-sponsored or Grantee-developed training;
- 11) Professional dues and subscriptions to trade magazines;
- 12) Indirect costs, pursuant to a federally-approved indirect cost rate, but only up to the amount allowable in the agency Administration I line in the budget, regardless of the approved rate;
- 13) Out-of-state travel when directly related to the operation/administration of the Weatherization Program and allowed by contract.

C. Operations

Operations expenses result from installed ECM and Repair measure costs. Measure costs may be comprised of direct labor, materials, and contractor costs.

C.1. Direct Labor

Include the following when calculating the agency direct labor rate:

- 1) Direct labor costs, including vacation/holiday time, and job prep/transportation time.
- 2) Supervisory costs
- 3) Inventory control personnel
- 4) Warehousing (program share of space, utilities, etc.)
- 5) That portion of wages and fringe benefits for the program manager and other program staff that directly relate to crew and/or sub-contractor field operation.

C.2. Materials Installed

The cost of materials installed that meet standards stated in Chapter 5. If materials in stock no longer meet standards, you may continue to install materials that met these standards when purchased, until the materials are used up.

C.3. Delivery

The cost of having a third party transport weatherization materials to the program warehouse or directly from the seller to the job site.

C.4. Contractor Costs

The reasonable cost of the installation of weatherization measures by a private contractor.

C.5. Repair Costs

Repair measures shall have costs allocated to them through the cost allocation plan.

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C.6. Unusable, Damaged or Lost Grantee Materials

The total amount of charges for unusable, lost or damaged materials shall not exceed 0.25 percent of the total Operations expenditures. These charges must be reported as part of the final close-out report.

D. Program Support

D.1. Transportation

The cost of transportation of weatherization materials, tools, equipment, work crews, supervisory personnel and energy auditors.

Vehicle usage expenses may include mileage reimbursement for non-agency owned vehicles and expenses for agency owned or leased vehicles used for weatherization, such as:

- 1) Gas and oil.
- 2) License and taxes.
- 3) Tires and vehicle repairs.
- 4) Vehicle insurance (collision and liability).
- 5) Vehicle purchase using LIEAP fund.
- 6) Vehicle lease.
- 7) Vehicle lease termination.
- 8) Vehicle storage costs.

D.2. Tools and Equipment

The purchase and/or lease of tools and equipment necessary to effectively install weatherization materials. Tools and equipment shall include such items as tape measures, insulation blowers, ladders and consumable equipment (saber saw blades, replacement filters for dust masks, blades for utility knives, etc.).

The repair and maintenance costs for tools and equipment.

D.3. Other Support

The following costs that occur as a result of staff performing weatherization tasks:

- 1) Telephones;
- 2) Office supplies;
- 3) Postage;
- 4) Copying;
- 5) Space;
- 6) Computer supplies and service contracts;
- 7) Equipment lease or purchase other than computers;
- 8) Building permits when required by law; and
- 9) Reimbursement of travel expenses to attend meetings of the Weatherization Operators of Wisconsin (WOW).

E. Liability Insurance

The Grantee shall charge the cost of insurance for the following to this cost category:

- 1) Personal injury;
- 2) Property damages;
- 3) Operations;
- 4) Product liability;
- 5) Pollution occurrence insurance.

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- 6) The cost of mold and mildew coverage is NOT an allowable weatherization expense.

The cost of liability insurance for vehicles is not allowed in this category. It is a transportation cost.

E.1 Pollution Occurrence Insurance

- 1) Grantees are required to have a liability pollution occurrence rider for all weatherization work under their agreement with DOA. Minimum limits are \$500,000 per occurrence; \$500,000 aggregate for the policy term; and \$2,500 deductible per occurrence.
- 2) Grantee shall decide whether to cover their subcontractors under their POI insurance or pass the liability to the sub-contractors. If the Grantee chooses not to cover their subcontractors, they must inform subcontractors and require a signed waiver that indemnifies the agency and the state. The following language is suggested:
The Contractor shall indemnify and hold harmless the weatherization agency and the State of Wisconsin and all of their officers, agents and employees from all suits, actions or claims of any character brought for or on account of any injuries or damages received by any persons or property resulting from the operations of the Contractor, or of any of its agents or subcontractors, in performing work under this Agreement.
- 3) The cost for non-weatherization program work performed by crews or subcontractors is not allowable. Allowable costs are for a POI policy that covers only WAP related work being performed under an agreement with a funding source to perform such work on their behalf.
- 4) POI is not a lead (Pb) insurance policy.
- 5) Sub-contractors are required to be covered by a POI policy when they will disturb more than two square feet of a painted surface in pre-1978 constructed housing.

F. Financial Audit

The weatherization program is classified as a “major” program as defined under federal OMB A133 Single Audit Guidelines.

The Grantee shall charge the cost of the required financial and compliance audit of the Weatherization Program to this line. The cost of the financial audit may be either the cost of a separate audit of the Weatherization Program or the Weatherization share of an agency-wide audit. It cannot be both.

The Division does not allow any financial audit costs not related to either a separate audit of the Weatherization program or the Weatherization share of an agency-wide audit.

G. Health and Safety

The Grantee shall charge to this line the costs of the treatment of health and safety hazards in accordance with Chapter 10. DOE Health and Safety expenditures shall not exceed the DOE budgeted amount.

H. Training and Technical Assistance

The Grantee shall not exceed the budgeted amount for Training and Technical Assistance in any contract. The Grantee shall use Training and Technical Assistance Funds for:

- 1) The cost of training programs and training materials;
- 2) In-state travel costs and registration fees for training weatherization staff;
- 3) The cost of subscriptions to Weatherization program-related periodicals;
- 4) Program evaluation costs, including labor costs, in accordance with the program budget;
- 5) State-called grantee meetings;
- 6) Costs associated with out-of-state training when allowed; and
- 7) All or part of the cost of training subcontractors.

The Division does not allow the use of Training and Technical Assistance Funds for:

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- 1) Wages and fringe benefits (except as noted above); and
- 2) Costs related to attending meetings (except as noted above).

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Chapter 9 Reporting Requirements

A. General

Grantees must submit reports to the Division on a monthly and contract basis. Grantees must also submit special reports as requested by the Division.

An authorized agency representative must review all reports and sign financial reports before submission. The Division will not accept as timely, reports that are incomplete or inaccurate.

When submitting electronic financial reports, clicking the “Approve” button in WisWap has the same implications as a signature, and should only be performed by an authorized agency representative.

B. Monthly Financial Reports

Monthly reports must be submitted through the WisWap electronic system by the fifteenth (15th) day following each contract month. Completed unit information that is to be included on the monthly invoice can be entered any time before the invoice is created. Electronic reports received by the 5th of the month will be reimbursed first, and then a second reimbursement for those received by the 15th. If the 5th or the 15th of the month fall on a weekend or holiday, the deadline is extended to the next following business day.

Monthly financial reports are subject to a four-stage approval process before reimbursement:

- 1) Initial grantee approval;
- 2) Grantee authorized representative approval;
- 3) Division of Energy (DOE) representative approval; and
- 4) Division of Administrative Services (DOAS) Financial Officer approval.

The expenditure reports should present an accurate statement of allowable costs incurred for the month.

The Grantee must submit separate Weatherization Expenditure Reports each month for each grant funding source.

All measures identified in a work order must be invoiced in the contract year the unit is reported as complete. If a measure is completed and invoiced, the unit must be completed in that contract year. If the unit is not completed by the end of the contract year, any invoiced measure costs are disallowed and must be backed out and reentered for the new contract year. Costs for the installation of allowable measures may be accrued prior to the contract year in which the completed unit will be reported, and then reimbursed when the unit is reported as complete. To avoid disallowed costs, care should be taken to ensure that all measures are active and allowable under the subsequent contract.

B.1. Timely WisWap Data Entry

All WisWap data entry must be performed within five days of the completion of the activity. The procedure will be to enter the building and customer information within five days of accepting the application. Audit information will be entered within five days from the date of the audit and generate a WisWap workorder. Actual materials and labor are to be entered within five days from receipt of invoices and/or cost information. Final inspections and completions will be entered within five days of the work being done on that unit.

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C. Final Program Review (Close Out Report)

The Grantee must submit the Final Program Review Report (Close Out Report) to the Division no later than 70 days after the termination of a contract. No production charges are allowed unless approved by the Division.

The Final Program Review Report contains multiple parts. The Division does not consider the Final Program Review Report submitted and complete until each part is submitted and complete.

Electronic submittal using the Division Closeout Report boilerplate:

1. Total completed unit count.-
2. Job Cost Reduction Reconciliation-
3. Inventory Adjustments,
4. Tool and Equipment Purchase of items over \$2,500,
5. Vehicles Purchased and Leased,
6. Use of Training and Technical Assistance funds.
7. Return of Unused Funds, by funding source, if applicable.

Email electronic report materials to heat@doa.state.wi.us

Through the U.S. Mail (must be received by the Division within 5 working days from electronic submittals)

- 1) Final WisWap Invoice with original signature on each funding source page.
- 2) Check returning unspent funds, if applicable (payable to Dept. of Administration).
- 3) 3. Annual minority business participation report.

Mail hard copy reports materials to:

State Department of Administration
DOA Division of Energy
PO Box 7868
Madison, WI 53707-7868

C.1. Final Financial Statements

Grantees must submit separate final financial Expenditure Report statements for each grant fund. Submit through the WisWap electronic system and signed hard copies.

C.2. Inventory Adjustments

Grantees must indicate inventory adjustments that occurred during the contract period, including a summary of each of the following dollar amounts (adjustments shall not exceed 0.25% of total operations expenditures):

- 1) Losses;
- 2) Damages; and
- 3) Unusable materials.

C.3. Tool and Equipment List

Grantees must provide a list of equipment with a purchase price over \$2,500. Also provide the total dollar amount expended on equipment.

C.4. Vehicles Purchased/Leased

Grantees must provide descriptions and costs of vehicles purchased and/or leased.

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C.5. Job Cost Reduction Reconciliation

Grantees must include the following information:

- 1) Job cost reduction funds earned in contract year; and
- 2) Job cost reduction funds expended in contract year.

WisWapC.6. Training & Technical Assistance

Grantees must report their Training and Technical Assistance activities.

C.7. Units Completed

Grantees must report the total number of units completed during the contract period. Do not list units. Total number of units must reconcile to WisWap reports

C.8. Annual Minority Participation Report

Grantees shall submit a completed Weatherization Program Minority Business Participation Annual Report. (Form may be found on the HOME Energy Plus web site

http://homeenergyplus.wi.gov/section_detail.asp?linkcatid=623&linkid=122&locid=25&sname=Grantee%20Information.

D. Special Reports

Special reports include information requested by the Division about program operations, client services and energy savings. Special reports may also include information needed for follow-up surveys or research. These reports are due on the dates indicated on the request. Submit all special reports to:

State Department of Administration
Energy Assistance Bureau
DOA Division of Energy
P.O. Box 7868
Madison, WI 53707-7868

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Chapter 10 Health and Safety

A. General

A.1. Policy

It is the policy of the Division that local grantees identify health and safety hazards during the energy audit, notify the property owner and occupants of these hazards, and, depending on their severity, treat the identified hazards when they are present prior to or exacerbated by weatherization activities. Elimination of Health and Safety hazards, using weatherization program funds, must be done in conjunction with the installation of energy conservation measures.

A.2. Health and Safety Inspection

Energy audits performed on buildings will include a Health and Safety Inspection. At the time of the energy audit, the following items will be inspected to determine if any health and safety hazards exist which will be exacerbated by weatherization work, or will be created by weatherization work:

- 1) Safety of the heating system
- 2) Excessive moisture problems (e.g. mold or mildew)
- 3) Appliances (e.g. water heaters, gas stoves, etc.)
- 4) Electrical System
- 5) Pollution occurrences, i.e. painted surfaces for lead-based paint, friable asbestos, mold
- 6) Plumbing facilities
- 7) Presence of working smoke and CO detectors
- 8) Ventilation
- 9) Structural hazards such as: dangerous or deteriorated stairways; deteriorated foundations, deteriorated roofs; significant deterioration of chimneys; dangerous or deteriorated floors or sidewalls; signs of significant water penetration through the structure.

A.3. Health and Safety: Level of Concern

Potential or actual threats to health and safety vary by degree. Definite health and safety concerns, which are not an immediate threat to the occupants, may be described as non-imminent conditions. Definite health and safety concerns, which are an immediate threat to the occupants, may be described as an imminent condition.

- 1) Non-imminent conditions may be addressed in part or full at the discretion of the local grantee. At a minimum, residents must be informed of the problem and provided with recommendations or information on how to address the problem. Examples of non-imminent conditions may include minor electrical problems, maintenance problems, or a "potential" for indoor air problems.
- 2) Imminent conditions, depending on their severity, should either be addressed by the building owner prior to the weatherization work or by the weatherization grantee as a part of the weatherization work. Elimination of health and safety hazards using weatherization program funds must be done in conjunction with the installation of energy conservation measures. Some "imminent conditions" will be hazards that may easily be tied to weatherization measures. Examples of these hazards may include heating system, chimney or water heater failure; carbon monoxide leaks or other treatable indoor air quality problems. Other "imminent conditions" will exceed the scope of the Weatherization Assistance Program. Examples of these hazards may include major structural failure, lead paint contamination, major electrical overload, or faulty sewer systems. Every effort should be made to refer the dwelling owners to other sources, such as HUD HOME, which may help address the hazards. Weatherization services should be coordinated with the other funding sources. If the health and safety hazards cannot be eliminated the building must be deferred until the hazards can be eliminated.

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A.4. Worker Safety

Worker safety is the responsibility of the grantee. In contracting with grantees, the Division assumes compliance with all applicable federal, state, and local safety and health regulations. The grantee is responsible for enforcing all work rules to ensure a safe working environment for the workers and subcontractors.

The grantee is responsible for ensuring workers and subcontractors are properly trained, and certified when certification is required. An example of required certification is lead safe work practices. Respirator training and fit testing are also required when necessary for agency personnel and sub-contractors.

A.5. Deferred Services

Refer to Appendix F for policy instructions and deferral of service form.

B. Lead Paint Guidelines for Weatherization

B.1. General

Lead-based paint is a potential hazard that crews may encounter in older housing. Weatherization work may directly disturb lead-based paint, possibly creating hazardous conditions for workers and occupants. It is the policy of the program that workers must be aware of lead-based paint hazards and conduct weatherization activities in a safe work manner.

The purpose of the weatherization program is to install energy conservation measures in eligible dwelling units. Program funds may be used to minimize the potential hazard associated with disturbing painted surfaces through the course of installing energy conservation measures. **Program funds may not otherwise be used for the abatement, stabilization, or control of lead-based paint hazards that may exist in a dwelling unit.** It is the Division's opinion that all weatherization measures can be installed in a lead safe manner with proper training.

B.2. Always

- 1) All weatherization activities conducted on dwelling units constructed prior to 1978 shall be performed in a lead safe manner utilizing lead safe work practices. Lead safe work practices may be found in the HUD publication "*Lead Paint Safety: A Field Guide for Painting, Home Maintenance and Renovation Work*".
- 2) Any worker disturbing a painted surface in pre-1978 dwellings shall be properly trained in lead safe work practices.
- 3) Use proper setup and clean-up procedures.
- 4) The EPA pamphlet "*Protect Your Family from Lead in Your Home*" shall be given to owners and occupants at the time of application/intake. Documentation of delivery shall be retained in the customer file.
- 5) Planned weatherization activities shall not create lead hazards. (Do no harm)
- 6) Adhere to all laws and regulations pertaining to lead paint including those from OSHA, EPA, HUD and the State of Wisconsin.
- 7) Provide and maintain equipment necessary to perform weatherization activities in a lead safe manner.

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B.3. Testing for Lead Paint

Program funds may not be used for the routine testing of every dwelling unit for the presence of lead paint before work starts or after work is completed.

B.4. Training

All local grantee work crews, both existing staff and new hires, shall be required to receive training in lead safe work practices. Training, at a minimum shall be sufficient to provide a worker with the knowledge necessary to identify potential lead-based paint hazards, the tools necessary to set up and install weatherization measures in a lead safe manner and proper clean up techniques.

B.5. Dwelling Units Receiving HUD Funding

Local grantees shall determine if the dwelling unit referenced in an application for weatherization services is enrolled in a HUD funded program and which HUD funded program it is. **Enrolled in a HUD funded program for these purposes shall be defined as a dwelling unit which has had any HUD funds invested in it within the prior twelve months from the date of application for weatherization services or will have HUD funds invested before the completion of the weatherization project.**

Dwelling units to be weatherized and which are receiving HUD funding must meet the standards established in HUD's "Lead-Based Paint Poisoning Prevention in Certain Residential Structures" rule (24 CFR Part 35) for that particular HUD funded program. (The rule was issued under sections 1012 and 1013 of Title X, the Residential Lead-Based Paint Hazard Act of 1992.) **Weatherization funds may not be used to meet the HUD standards. Energy conservation measures, which as a by-product meet some or all of the HUD standards, are permitted.**

A local grantee should make every effort to identify resources which would enable a unit that receives HUD funding to be completed under the weatherization program and meet the HUD standards.

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Appendix A

Wisconsin Measures List for One to Four Unit Buildings

Building Shell Measures	
Measure	General Policy
Attic and Kneewall Insulation	Insulate to R-50 if existing insulation is less than R-30. Insulate vertical areas to maximum structurally allowable. Seal applicable key junctures.
Floor Insulation	Insulate floors that define heating envelope to maximum structurally allowable. Install vapor barrier over exposed dirt floors.
Sidewall Insulation	Insulate cavities to R-13, or maximum structurally allowable.
Interior Foundation Treatments	Seal and Insulate sillbox area to R-19, or maximum structurally allowable, using appropriate material. Install vapor barrier Insulate interior walls of unintentionally conditioned crawlspaces to R-10, using appropriate materials. Install vapor barrier over exposed dirt floors and based on conditions.
Exterior Perimeter Foundation Insulation	Insulate slab on grade and inaccessible crawl spaces to R-5, to a minimum of 6" below grade. Exterior perimeter insulation must be tested with the NEAT Audit and meet a minimum 1.0 SIR.
Window Replacement	Replace windows as an Energy Conservation Measure if the measure has a SIR of ≥ 1.0 when tested with the NEAT audit.
Air Sealing	Use Blower Door to guide sealing work, whenever possible. Use Zone Diagnostics where appropriate or required. Seal all major bypasses and key junctures. Follow the Weatherization Cost Effective Sealing Guidelines.
Mechanical Systems Measures	
Heating Systems Replacement-Forced Air	Natural Gas Forced Air Furnaces: Replace if existing atmospheric unit has a SSE $\leq 75\%$ and has < a 5 year life expectancy. Inspect units with SSE $> 75\%$ and more than 5-year life expectancy. Replacement must be Energy Star eligible. LP Forced Air Furnaces: Replace if existing atmospheric unit has a SSE $\leq 80\%$ and the existing unit has < a 5-year life expectancy. Inspect units with SSE of $> 80\%$. Replacement must be Energy Star eligible. Oil Forced Air Furnaces: Replace if existing atmospheric unit has a SSE $\leq 75\%$ and the existing unit has < than a 5-year life expectancy. Inspect units with SSE $> 75\%$ and, > than a 5 year life expectancy.
Heating Systems-Boilers	Model all boilers for replacement that are greater than 10 years old or have a SSE of < 75 . Model all boilers for replacement with NEAT Audit. Model both 90%+ and $> 80\%$ AFUE gas boilers. Install boiler with the highest SIR.
Space Heaters:	Replace units greater than 10 years old, when feasible, with the highest efficiency unit available for the application. Inspect units less than 10 years old for health and safety problems.
Heating Systems-Electric Conversion	Furnaces And Baseboard Heaters: Replaced when lifecycle savings is equal to or exceeds a SIR 1.0, when modeled on the Electric Heat Conversion Worksheet.

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Heating Systems: Tune and Clean See specifications for other system types.	Natural Gas and LP Heating Systems , which will not be replaced, may receive a tune and clean based on inspection. Oil Heating Systems: Tune and clean the heating unit, unless it will be replaced.
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Measure	General Policy
Distribution System	Evaluate system, test. Modify as needed. Seal major return and supply leaks. Insulate and seal ducts in unheated areas.
Programmable Thermostat	Install a programmable thermostat under the following conditions: The existing thermostat will be replaced, and The occupant has both the desire and aptitude to program the thermostat.
Water Heater Replacement	Electric Conversion. Replace an existing electric water heater with natural gas or LP water heater, based on protocol.

Baseload Measures

Compact Fluorescent Lighting (CFLs)	Replace all incandescent light bulbs with Energy Star qualified CFLs, where feasible. Replace all halogen torchieres with CFL torchieres.
Refrigerator Replacement	Replace existing refrigerators manufactured prior to 1990, with properly sized Energy Star eligible unit. De-manufacture and properly dispose of existing unit. Remove, de-manufacture and properly dispose of functional secondary refrigerators manufactured prior to 1990 whenever possible (up to \$50 bounty).
Domestic Hot Water Treatments	Insulate water heater tanks with <R10 existing insulation. Install showerheads and flow restrictors. Insulate 6' of pipes from water heater. Reduce water heater temperature to 125 degrees, where feasible.
Freezer Replacement	Replace functioning freezers operating in conditioned or unintentionally conditioned space, which have a Power Factor less than .75 and are greater than 14 cubic feet, with a properly sized Energy Star eligible chest-type, manual defrost freezer. De-manufacture and properly dispose of existing unit.
Freezer Removal	Remove functioning freezers, in conditioned or unintentionally conditioned space Offer a \$50 incentive for removal. De-manufacture and properly dispose of freezer that is being removed.

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Health and Safety Measures	
Measure	General Policy
Hazard Elimination-General	Eliminate hazards that pose an imminent threat to the health and safety of occupants.
Air Conditioning	Install central or room air conditioning based on the health of the customer. Specific statement of conditions from medical professional required. Replacement must be Energy Star eligible.
Water Heater Replacement	Assure natural gas or LP water heaters are properly drafted. See specifications and protocols for options. Options may include the installation of a power-vented replacement water heater. Replace or repair electric water heaters that are leaking.
Mechanical Ventilation	Install properly sized and balanced mechanical ventilation when needed to assure indoor air quality.
Window and Door Replacement	Replace deteriorated windows and doors, in dwellings built prior to 1930, occupied by households with service priority.
Repair Measures	
Repairs General	Repairs Necessary for the Installation of Weatherization Materials.
Replacement Windows and Doors	Replace deteriorated windows and doors that cannot be repaired, if the building has a cumulative SIR of > 1.0 when tested with the NEAT audit.

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Appendix B

1-4 Unit Specifications and Standards

May also be used for installation guidance on multiple measures.

General Specs

- 1) All work will be completed in a professional and lead-safe manner.
 1. All materials will be installed to manufacturer specifications. For more specific information on installation procedures and guidance see the Weatherization Field Guide.
- 2) All materials and labor must carry a one-year warranty from the date of final inspection.
- 3) All debris must be removed from the job site and properly disposed of.
- 4) All work will follow applicable codes and regulations.
- 5) All building permits are the responsibility of the grantee.
- 6) The Energy Assistance Bureau Director or his or her designate will be the final authority for any questions regarding these specifications and measures.
- 7) Provide a description to occupants of maintenance and operation of measures.
- 8) Energy Star® products are listed as materials specification in several areas. Grantees should make an effort to install Energy Star® products, whenever feasible.
- 9) All materials used must meet the requirements outlined in the Materials Chapter of the Weatherization Manual.

Attic And Kneewall Areas

- 1) Insulate attics less than R- 30 to an R-50, or maximum allowable depth.
- 2) Insulate scuttle hatches to the R-value of the attic insulation or the maximum structurally allowable, whichever is lower. Pre-fabricated may be used. Box around scuttles for repeated access.
- 3) Insulate the vertical areas to maximum structurally allowable.
- 4) Seal important joints and bypasses before or during insulation.
- 5) Vent all exhaust fans to the exterior.
- 6) Attic preparation includes building barriers around fan housings, recessed lighting and knob and tube wiring.
- 7) Install roof venting as needed.

Floor Insulation

- 1) Insulate floors where they define the heating envelope to the maximum R-Value structurally allowable.
- 2) Install a 6-mil vapor barrier over exposed earth floors.

Sidewall Insulation

- 1) Insulate the sidewalls using the “dense pack technique” for cellulose or fiberglass to an R-13 or the maximum structurally allowable.
- 2) Insulate walls where more than 10% of the total wall area is uninsulated.

Interior Foundation Treatments

- 1) Seal and insulate accessible crawl space walls to a minimum R-10 in unintentionally conditioned areas.
- 2) Install a 6-mil vapor barrier over exposed earth floors.
- 3) Seal and Insulate sillbox area to R-19, or maximum structurally allowable, using appropriate material.

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Exterior Foundation Insulation

- 1) Insulate all accessible slab-on-grade foundations with R-5 foam board with a durable weather resistant coating. Insulate to a depth of 6 inches below grade.
- 2) Insulate exterior walls of inaccessible heated crawlspaces with R-5 foam board with a durable weather resistant coating. Insulate to a depth of 6 inches below grade.
- 3) All exterior foundation insulation must meet SIR of 1.0 or greater when modeled with the NEAT Audit.

Heating Unit Replacement

- 1) **Natural Gas Forced Air Furnaces:** Replace if existing atmospheric unit has a SSE $\leq 75\%$ and has < 5 year life expectancy. Inspect units with SSE $> 75\%$ and more than 5-year life expectancy. Replacement must be Energy Star eligible.
- 2) **LP Forced Air Furnaces:** Replace if existing atmospheric unit has a SSE $\leq 80\%$ and the existing unit has < 5 -year life expectancy. Inspect units with SSE of $> 80\%$. Replacement must be Energy Star eligible.
- 3) **Oil Forced Air Furnaces:** Replace if existing atmospheric unit has a SSE $\leq 75\%$ and the existing unit has < 5 -year life expectancy. Inspect units with SSE $> 75\%$ and, > 5 year life expectancy. Oil furnaces may be switched to gas, if there is gas present in the building.
- 4) Inspect units not to be replaced for tune and clean or health and safety measures.
- 5) SSE test results on all replaced and existing heating system must be documented in the dwelling file.
- 6) **Space heaters:** Replace units greater than 10 years old. Use the highest efficiency unit available for the application. Inspect units less than 10 years old for health and safety problems.
- 7) **Boilers:** Model all boilers for replacement that are greater than 10 years old or have a SSE of < 75 . Model all boilers for replacement with NEAT Audit. Model both 90%+ and $> 80\%$ AFUE boilers. Install boiler with the highest SIR.
- 8) **Wood:** (as primary system): Replacement units are considered a health and safety measure. All replacement units must meet applicable local codes and EPA requirements. Installations must conform to the NFPA 211.
- 9) All replacement heating systems except wood burning units must meet the following minimum efficiency standards as listed in the latest edition of the GAMA Directory of Furnace and Boiler Efficiency.

Oil-Fired Boilers	= $> 83\%$ AFUE
Gas -Fired Boilers	= $> 83\%$ AFUE
Oil Furnaces	= $> 83\%$ AFUE
Natural Gas/LP Furnaces	= $> 90\%$ AFUE

General Heating System Replacement Specifications As Applicable

- 1) Use existing distribution system and gas supply line.
- 2) Properly remove and dispose of existing unit.
- 3) Provide an owner's manual with heating system replacements.
- 4) Install properly sized units according to UDC or an equivalent sizing formula.
- 5) Install a condensate pump where needed to reach an appropriate drain.
- 6) Seal openings in chimneys where atmospheric vented appliances are eliminated. Indicate with a written notice on the chimney, where sealed, that the chimney is no longer functional.
- 7) Warranties. The installer must guarantee material and labor heating system replacement for a period of one year.
- 8) Fuel Type. Generally, heating system replacements must maintain the existing fuel type. If the original fuel type is wood, the replacement system is a health and safety measure. Exceptions to this would include:
- 9) Gas is available to house.
- 10) Electric resistance heater replacements, with any other fuel, has a savings-to-investment ratio of

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- greater than 1.0 (use the electric fuel switch calculator to determine the savings-to-investment ratio.
- 11) Multiple fueled systems are exhausting through the same chimney.

Other Heating System Work

- 1) Clean and tune heating systems following the procedures in the Field Guide.
- 2) Install programmable thermostats. Relocate thermostats to interior walls and instruct occupants regarding operation of setback thermostat. Programmable thermostats are the only allowable replacement thermostats that can be reported as a conservation measure. Every effort should be made to upgrade existing thermostats to a programmable thermostat, which meets the household's needs. In the event the Grantee elects not to use a programmable replacement thermostat, a working thermostat should not be replaced. If the current thermostat is nonfunctional, conventional thermostat may be used but the cost must be treated as a repair. The rationale for this is that there are no associated energy savings with a non-programmable thermostat. Report thermostats separate from heating system replacement costs.
- 3) Replace oil filters.
- 4) Provide occupant with 6 additional furnace filters or a permanent cleanable filter for forced air systems.
- 5) Special filters for air cleaning may only be installed as a health and safety measure, based on a medical conditions.
- 6) All forced air systems must have a filter cover.
- 7) For all heating system work, including replacements, a tag shall be prominently affixed to the heating unit identifying who the customer should call for service. The tag information must have the name, address and telephone number of the service organization.

Forced Air Distribution Work

- 1) Inspect and test ductwork for adequate return air, and for health and safety problems.
- 2) Seal all major return and supply leaks.
- 3) There must be adequate air flow for the system. Follow the manufacturer's recommendations. (Note: see the Field Guide for additional guidance).
- 4) Seal and insulate ductwork in unheated areas to R-10.
- 5) All new cold air returns shall be 8" round unless a new trunk is being installed.
- 6) All new supply runs will be 6" round excluding new trunks.
- 7) Install dampers and balance systems where ductwork is added.
- 8) Install cold air returns to all first floor rooms where feasible, except for kitchen and bathrooms.
- 9) Install cold air returns to second floor rooms as needed.

Boiler Distribution

- 1) Bleed air from the entire system.
- 2) Install an automatic fill valve.
- 3) Install a compression tank, or fill the expansion tank and the system to the correct level.
- 4) Ensure all safety systems are operational.
- 5) Install an electric vent damper where feasible.
- 6) Install thermostatically controlled radiator valves on the major radiators.
- 7) Install outdoor reset and boiler controls if feasible.
- 8) Inspect radiators. Repair or replace as necessary.

Air Sealing

- 1) Seal all major bypasses.
- 2) Building not to exceed the building tightness limit, where application, or the final building depressurization limit, whichever CFM50 limit is the highest.
- 3) Replace missing or broken window glass.

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- 4) Use blower door guided general sealing guidelines.
- 5) Conduct building depressurization tests in all units, plus the a worst-case draft test on all units having atmospherically vented appliances.
- 6) Use depressurization tests ("DTL" in ZipTest Pro software, or equivalent) to guide forced air distribution system work, air sealing, and maximum exhaust ventilation.
- 7) Zone Pressure Diagnostics Testing will be used whenever appropriate. Typically that is when the dwelling has one or more of the following conditions:
 - 8) An attached garage. Note: Zone testing is required when the dwelling has an attached garage.
 - 9) Health and safety problems related to a poor pressure envelope/air barrier.
 - 10) Structural moisture problems related to heat escaping into unheated zones.
 - 11) High fuel consumption not obviously linked to a lack of insulation or the heating system.
 - 12) A high pre-CFM50 blower door test.
 - 13) Multiple zones where determining linkage between zones or identifying sealing priorities is necessary.
- 14) Dwelling files must contain documentation of the pre and post blower door tests, combustion safety tests (depressurization tests, worst case draft tests, and spillage) and, if Zone Pressure Diagnostics is used, the pre- and post-zone leakage estimates.

Refrigerators

- 1) Replace units manufactured before 1990.
- 2) Replacement refrigerators must be current Energy Star® qualified products.
- 3) Install 15 cubic foot units in households with one or two persons unless there are special conditions. Install 18 cubic foot units in households with three to five persons. Install 21 cubic foot units in households with more than five persons.
- 4) De-manufacture and properly dispose all refrigerators removed.
- 5) Offer a \$50 incentive for removal of additional functional units not being replaced.

Freezers

- 1) Meter freezers operating in conditioned spaces to assess replacement eligibility. Freezers operating in garages or on porches are not eligible for replacement.
- 2) Document existing freezer metering information in the customer file and as required on WisWap.
- 3) Replace existing freezers that equal to or greater than 14 cubic feet, which have a metered Power Factor less than 0.75. Do not replace freezers that were manufactured during or after 1993.
- 4) Replacement freezers must be approximately equal to or less than the size of the existing freezers, based on the following guidelines:

Existing Freezer (Cubic Feet)	Replacement Freezer Size Range (Cubic Feet)
Any size ≥ 14	9-12.2
14.1-15	14.8 to 16.5
15.1-19	16.5
19.1-22	20.3 to 21.7

In situations where downsizing is not feasible, consider the size of the family and way they use the freezer in selecting a replacement freezer.

- 5) Replacement models should be chest type freezers with manual defrost.
- 6) Offer a maximum \$50 incentive for removal of additional functional units operating in conditioned spaces and not being replaced. Freezers operating in garages or on porches are not eligible for a bounty.
- 7) De-manufacture and properly dispose of all freezers removed.

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Lighting

- 1) Replace all incandescent bulbs, where feasible, with Energy Star® qualified CFLs.
- 2) Replacement CFL should be appropriate for the intended use.
- 3) Replace all halogen torchieres with fluorescent equivalent fixtures, remove and dispose of old fixture.
- 4) Increase lighting efficiencies in common areas of multi family housing.
- 5) Utilize current Energy Star® qualified products in all cases where product warrants replacement and is available (e.g., items 1–3 above, and including Exit lights).
- 6) All replacement CFLs and fixtures must be installed and inspected prior to the completion of the dwelling unit.

Domestic Hot Water Treatments

- 1) Install 2.5 GPM or less showerheads and faucet aerators on every fixture.
- 2) Install R-2 pipe wrap on the first 6 feet of the hot and cold water pipes.
- 3) Reduce water heater temperature to 125 degrees.
- 4) Insulate water heater tanks with <R10 existing insulation, to a minimum of an R-10. Mechanical fasteners and tape are required.

Health And Safety

Health & safety is defined as the cost of materials and labor necessary to eliminate or reduce hazards before, or as a result of the installation of weatherization materials. Current Energy Star® -qualified products must be used when available (e.g., ventilation fans, dehumidifiers, air conditioning, etc.) Examples are:

- 1) Perform asbestos treatments as necessary.
- 2) Repair unsafe chimneys.
- 3) Vent bathroom and kitchen exhaust fans to the exterior. New and replacement fans installed must be current Energy Star® -qualified products.
- 4) Install properly sized and balanced mechanical ventilation when needed to assure indoor air quality.
- 5) Install one smoke detector per floor including basement areas.
- 6) Install carbon monoxide detectors in units where atmospherically vented appliances, including gas ranges, will remain at completion of the work, and all dwellings with attached garages.
- 7) Complete combustion safety tests on dwelling to assure safe operation of all appliances.
- 8) Replace deteriorated windows, in dwellings built prior to <1930, occupied by households with service priority, based on conditions listed under window replacement.
- 9) Assure natural gas or LP water heaters properly draft. See specifications and protocols for options. Options may include the installation of power-vented replacement water heater.
- 10) Replacement water heaters must meet the specifications listed under water heater replacement.
- 11) Replace or repair water heaters that are leaking.
- 12) Grantees may install an Energy Star qualified central or room air conditioning, based on an occupant's health.
- 13) A physician's statement is required in order to install air conditioning.
- 14) That statement should identify the specific health condition that requires air conditioning and reason why that condition requires air conditioning (e.g., inability to tolerate temperature extremes).
- 15) Grantees are encouraged, when feasible, to create a comfort zone in the home by using Energy Star® qualified room air conditioner(s).

Repair

Repair is defined as items necessary for the effective performance or preservation of weatherization materials. Examples are:

- 1) Repair leaking roofs.

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- 2) Repair electrical systems.
- 3) Repair hot and cold water leaks
- 4) Replace deteriorated windows that cannot be repaired, if the building has a cumulative SIR of greater than or equal to 1.0 when tested with the NEAT audit. Follow the Window Replacement Protocol.
- 5) Replace deteriorated doors that cannot be repaired if the building has cumulative SIR of greater than or equal to 1.0 when tested with the NEAT audit. Follow the Door Replacement specifications.

Water Heater Replacement

- 1) Replace electric water heaters with power vented natural gas units, with .61 EF, when there is a gas line to the dwelling, no time of use is present, and existing equipment is greater than 5 years old.
- 2) Replace electric water heaters with power vented LP gas units, with .61 EF, when there is no gas line to the dwelling, no time of use is present, and existing equipment is greater than 5 years old, and there are four or more persons in the household.
- 3) Electric water heaters replacements must be a health and safety measure. Replace the existing electric water heater based on health and safety problems with high efficiency, .94 EF.
- 4) Install a sidearm or indirect water heaters when the existing boiler will be replaced with a high efficiency boiler and the existing water heater will also be replaced.
- 5) Install a tankless water heater only when no other gas water heater will work (e.g. very limited installation space) or in households with extremely high occupant hot water usage. This measure is allowed only on a case-by-case waiver basis.
- 6) Removal and disposal of the old unit is required.
- 7) Sizing must consider the number of people in the household.

Window Replacement Protocol And Specifications

Windows with primary single pane glass and wood or metal frames may be replaced following the conditions stated in protocols, with current Energy Star® qualified units. The work must be done in a lead-safe manner.

- 1) Window replacement is categorized in three areas:
- 2) An Energy Conservation Measure when the measure has a SIR \geq 1.0.
- 3) A Health & Safety Measure if the dwelling was built prior to 1930, and occupied by households with service priority (elderly, handicapped, families with young children).
- 4) A repair when windows are entered into NEAT's itemized cost tab and the cumulative SIR for building is \geq 1.0.
- 5) To replace a window, it must meet all of the following conditions:
- 6) Replace windows only in the primary heating envelope.
- 7) Replace windows with rotted or deteriorated frames or sash.
- 8) Windows with rotted/deteriorated frames and sash with deteriorated paint film may be replaced.
- 9) A window with a cracked or broken pane of glass, but where degradation of the frame and or sash is not occurring, will have only the glass repaired or replaced.
- 10) Photographs should be taken of each window to be replaced. The photograph should document specifically why the window was replaced – e.g., rotted frame or rotted sash (#1) rotted frame and rotted sash with deteriorated paint film (#3).

Door Replacement Specifications

Primary doors may be replaced following the conditions stated in protocols below, with Energy Star® - qualified doors, if available. Replacement doors must be R-9 minimum.

- 1) Door replacement is categorized in two areas:
 - a) A Health & Safety Measure if the dwelling was built prior to 1930, and occupied by households with service priority (elderly, handicapped, families with young children).
 - b) A repair when doors are entered into the NEAT's the itemized cost tab and the cumulative SIR for building is \geq 1.0.

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- 11) Replacement doors must be insulated to R-9 or greater. Replacement doors must be an Energy Star® -qualified product, if one is available.
- 12) Patio doors are not an allowable measure.
- 13) Doors may be replaced only if the door is in the primary heating envelope that have any of these characteristics:
 - a) Rotting occurring on either the door jamb or the door blank.
 - b) Holes or cracks in the door jamb or door blank.
 - c) Not able to be repaired to operate correctly.
- 14) Deteriorated paint. Work must be completed using lead safe work practices.

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Appendix C Mobile Home Measures

Measure	General Policy
SHELL AND SHELL INTERACTIVE MEASURES	
<i>All shell and shell interactive measures must be completed in the order listed.</i>	
Test and Seal Duct Work	1) Use blower door and pressure pan or duct blaster to guide distribution sealing. 2) Seal and reroute return air system or returns in the belly to furnace compartment door. 3) Seal major supply leaks. 1) Furnace to plenum connection; boot to floor and boot to plenum duct, slip joint connections, and crossover connections in doublewide units.
Repair Holes Belly	4) Repair any holes in the mobile home belly, using a proper repair material. Note: Seal duct work in the mobile home belly prior to sealing belly.
Floor Insulation	5) Insulate to maximum structurally allowable below the heating ducts. 6) If the cavity allows for less than 2" below the heating ducts, install insulation below the mechanical cavity and the ducts. Note: Repair holes in the mobile home belly prior to insulation.
Attic Insulation	7) Insulate to R-19, or maximum structurally allowable. Omit if available cavity space is less than 2 inches on average.
Sidewall Insulation	8) Insulate to R-11. Omit if remaining cavity is less than 2".
Insider Storm Windows	9) Install insider storms whenever storm window is not present.
Air Sealing	10) Use Blower Door to guide sealing work, whenever possible 11) Seal all major bypasses and key junctures. 12) Follow WI's Cost Effective Sealing, Depressurization and Building Tightness Guidelines.
BASELOAD MEASURES	
<i>All baseload measures materials must be an Energy Star®-qualified product, except for domestic water heater materials.</i>	
Lighting.	13) Replace all incandescent light bulbs with Energy Star qualified CFLs, where feasible. 14) Replace all halogen torchieres with CFL torchieres.
Refrigerator Replacement.	15) Replace automatic defrosts units made before 1990. Properly dispose of old units.
Domestic Hot Water Treatments	16) Install showerheads, flow restrictors, insulate 6' of pipes from water heater. 17) Reduce water heater temperature to 125 degrees. 18) Install water heater tank insulation on water heaters with \leq R-10.

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Freezer Replacement and Removal	<p>19) Meter freezers operating in conditioned spaces to assess replacement eligibility. Freezers operating in garages or on porches are not eligible for replacement.</p> <p>20) Replace existing freezers that equal to or greater than 14 cubic feet, which have a metered Power Factor less than 0.75. Do not replace freezers that were manufactured during or after 1993. Properly dispose of old unit.</p> <p>For freezers not replaced:</p> <p>21) Offer a \$50 incentive for removal of additional functional units operating in conditioned spaces and not being replaced. Freezers operating in garages or on porches are not eligible for a bounty. Properly dispose of old unit.</p>
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MECHANICAL MEASURES

Heating System* *Gas Furnaces must be replaced with <u>current</u> Energy Star® - qualified product	<p>1) Clean and tune unit. Inspect units for health and safety problems.</p> <p>2) Health & safety replacements that meet 1.0 BCR, using BCR sheet may be charged as a conservation measure.</p> <p>3) Note: If heating system is replaced after shell measures are completed assure furnace to plenum and vent stack connection is sealed.</p>
Programmable Thermostats*	4) Install programmable thermostat when replacing thermostat. Follow guidelines in the Specifications and Standards. Properly recycle the old thermostat.
Water Heater Replacement	5) Convert electric to gas based on the guidelines. The replacement water heater must be a direct vent model, .59 EF, rated for mobile home use.

HEALTH AND SAFETY MEASURES

Health and Safety*	6) Eliminate hazards that pose an immediate threat to the health and safety of occupants. Follow guidelines in the Specifications and Standards.
Air Conditioning	<p>7) Install central or room air conditioning based on the health of the customer. Specific statement of conditions from medical professional required.</p> <p>8) Replacement must be Energy Star eligible.</p>
Water Heater Replacement	<p>9) Assure natural gas or LP water heaters are properly drafting. See specifications and protocols for options. Options may include the installation of a replacement water heater.</p> <p>10) Replace or repair electric water heaters that are leaking.</p>
Mechanical Ventilation	11) Install properly sized mechanical ventilation, when needed, to assure indoor air quality.

REPAIR MEASURES

Repair	12) Necessary repairs for the installation and preservation of weatherization materials. Follow guidelines in the Specifications and
Window Replacement* *must be replaced with <u>current</u> Energy Star® -qualified product.	13) Install replacement windows only when an insider window will not address the problem. Follow guidelines and protocols outlined in the Specifications and Standards
Door Replacement* *may be replaced with <u>current</u> Energy Star® -qualified product	<p>14) Primary doors may be replaced only when the door cannot be repaired.</p> <p>15) Replacement doors must either be a standard mobile home replacement door or an R-9 Energy Star qualified product.</p>

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Appendix D Mobile Home Specifications and Standards

GENERAL SPECS

- 1) All work will be completed in a professional and lead-safe manner.
- 2) All materials will be installed to manufacturer specifications.
- 3) All materials and labor must carry a one-year warranty from the date of final inspection.
- 4) All debris must be removed from the job site and properly disposed of.
- 5) All work will follow applicable codes and regulations.
- 6) All building permits are the responsibility of the grantee.
- 7) The Energy Assistance Bureau Director or his designate will be the final authority for any questions regarding these specifications and measures.
- 8) Provide a description to occupants of maintenance and operation of measures.
- 9) Energy Star® products are listed as materials specification in several areas. Grantees should make an effort to install Energy Star® products, whenever feasible.
- 10) All materials used must meet the requirements outlined in the Weatherization Manual..
- 11) Document all exception to the Field Guide installation procedures.

ATTIC /CEILING INSULATION

- 12) Insulate mobile home attics to R-19, or the maximum structurally allowable. Omit if available cavity space is less than 2 inches on average.
- 13) Install blown fiberglass insulation in the ceiling. Average insulation densities shall be 1.25 to 1.75 pounds per cubic foot of blown fiberglass insulation. Do not dense-packed or over fill area.
- 14) Vent all exhaust fans to the exterior.
- 15) Attic preparation includes building barriers around fan housings and recessed lighting.

FLOOR/BELLY INSULATION

- 1) Inspect and seal duct work prior to belly insulation. See distribution sealing for more information.
- 2) Inspect belly cavities and the protective barrier for general condition, structural strength, and major air leakage, prior to installing insulation. Necessary belly repairs must be made after ductwork is sealed and before insulation is installed. See distribution sealing for more information.
- 3) Insulate mobile home floors (belly cavity) to maximum structurally allowable with blown fiberglass insulation. Insulate below water pipes and ductwork, if possible. When not possible to get at least two inches of insulation between the pipes and the belly barrier and below ducts, an exterior patch of insulation is allowed.
- 4) Average insulation densities for loose fill insulation installed in mobile home bellies shall be Fiberglass – 1.25 to 1.75 pounds blown fiberglass per cubic foot. . Average insulation densities shall be 1.25 to 1.75 pounds per cubic foot. Do not dense-packed or over fill area.
- 5) A 6-mil vapor barrier may be installed over exposed earth, based on site conditions.

SIDEWALL INSULATION

- 1) Inspect exterior siding and the interior wall materials must to determine if installing insulation is needed and to assure that conditions allow for insulation installation. Inspect the electrical system. Repair, as needed, based on allowable program repair costs.
- 2) Insulate mobile home walls to R-11, omit if available cavity is less than 2".

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- a) Insulating small spaces above and below windows is not required.
 - 3) Do not dense-pack or over fill so as to create siding or interior wall structural problems.
 - 4) Walls with an exterior access for the water heater may be treated in one of two ways. Note any exceptions.
 - a) Insulate water heater closets with an exterior wall either at the closet door and associated wall area. Cover air vents if they are present and route combustion air (for gas units) from underneath the belly or through skirting. *Caution: assure water heater is properly drafting after completing the work.*
 - b) Seal and insulate the common wall between the living area and water heater. *Caution: assure water heater is properly drafting after completing the work. Water heater and pipes must be insulated to prevent freeze-up problems.*

INSIDER STORM WINDOW

- 1) Install insider storm windows on windows with primary single pane glass and no storm.

AIR SEALING

- 1) Air sealing should be completed after the distribution system has been sealed and the return rerouted and insider storms installed.
- 2) Complete any non-guideline sealing, such as missing or broken windows.
- 3) Seal all major bypasses. Replace missing or broken window glass.
- 4) Use blower door guided general sealing guidelines. The mobile home should not to exceed the building tightness limit (BTL_a), if applicable, or the final building depressurization limit (DTL), whichever CFM50 limit is the highest.
- 5) Use the ceiling height as both story and building height. The area and volume should be calculated using the "nominal" dimensions (example: 14x66, to exclude the hitch).
- 6) Use depressurization tests ("DTL" in ZipTest Pro software, or equivalent) to guide air sealing, and maximum exhaust ventilation, in conjunction with 62.2 calculation, if applicable..
- 7) Conduct a worst-case draft and building depressurization tests in all units having atmospherically vented appliances.
- 8) For most units run tests for each combustion zone. Test the heating system first and then test the water heater as necessary. The tests may also be done at the same time using multiple testing options on the digital gauge and hose configuration. Measure the combustion with respect to the outside.
- 9) When water heater has an exterior door, try to insert testing equipment probe via interior pathways. Measure the combustion zone with respect to the outside. Use baffles or other devices to shelter the outside tap get when high wind is a factor. Follow the depressurization guidelines below. Take steps to address depressurization that exceeds the maximum allowed.

Mobile Home Depressurization Guideline			
Maximum Depressurization for Combustion Appliance Zones			
Heating Systems			
Appliance Type:	Natural Draft	Induced Draft	Sealed Combustion
Appliance Type:	5	15	25
Water Heaters			
Appliance Type:	Natural Draft	Direct Vent ¹	
Pascals:	2	5	

¹ Direct vent water heaters should have a dedicated combustion air sleeve and continuous flue vent. The water heaters should be rated for mobile home use. These water heaters are often referred to as sealed combustion.

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Direct vent water heaters must have a dedicated combustion air sleeve and continuous flue vent. The water heaters must be rated for mobile home use. These water heaters are often referred to as sealed combustion.

HEATING UNIT REPLACEMENT

- 1) Inspect units not to be replaced for tune and clean or health and safety measures.
- 2) SSE test may be completed, following the manufacturers recommendations. Document the results on all replaced and existing heating system in the dwelling file.
- 3) Replace if the unit poses an immediate health hazard, or is totally inoperable. Gas heating system replacements must be an Energy Star® qualified product. Replacement units can be charged as an energy conservation measure if a 1.0 or greater BCR is met when tested with the BCR spreadsheet. Default efficiencies may be used for the spreadsheet. Base the default on the fuel type and condition of the existing furnace (e.g. oil <79% SSE and gas <80%). Model electric mobile home furnaces using the Electric Fuel Switch Calculator to determine if a furnace change out to switch fuels is cost effective. Fuel switch installations are allowed if the Savings to Investment Ratio (SIR) is greater than 1.0.
- 4) The cost of installing a >90% AFUE mobile home furnace should include the cost of retrofitting the unit into the furnace compartment.
- 5) Install the condensate lines from the furnace in a manner that guards against freezing. Use a condensate pump when necessary.
- 6) **Wood:** (as primary system): Replacement units are considered a health and safety measure. All replacement units must meet applicable local codes and EPA requirements. Installations must conform to the NFPA 211.
- 7) All replacement heating systems except wood burning units must meet the following minimum efficiency standards as listed in the latest edition of the GAMA Directory of Furnace Efficiency: > 79% AFUE Oil; > 90% AFUE Gas.

GENERAL HEATING SYSTEM REPLACEMENT SPECIFICATIONS AS APPLICABLE:

- 1) Use existing distribution system and gas supply line. See Forced Air Distribution Section for additional information.
- 2) Seal furnace to plenum connection; boot to floor and boot to plenum duct.
- 3) Properly remove and dispose of existing unit.
- 4) Provide an owner's manual with heating system replacements.
- 5) Install properly sized units according to ASHRAE Manual J or an equivalent sizing formula.
- 6) Install a condensate pump where needed to reach an appropriate drain.
- 7) Seal openings in chimneys where atmospheric vented appliances are eliminated.

OTHER HEATING SYSTEM WORK

- 1) Install programmable thermostats. Relocate thermostats to interior walls and instruct occupants regarding operation of setback thermostat. Programmable thermostats are the only allowable replacement thermostats that can be reported as a conservation measure. Every effort should be made to upgrade existing thermostats to a programmable thermostat, which meets the household's needs. In the event the Grantee elects not to use a programmable replacement thermostat, a working thermostat should not be replaced. If the current thermostat is nonfunctional, conventional thermostat may be used but the cost must be treated as a repair. The rationale for this is that there are no associated energy savings with a non-programmable thermostat. Report thermostats separate from heating system replacement costs. Properly recycle old thermostats containing mercury.

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- 2) Replace oil filters.
- 3) Provide occupant with a permanent furnace filter or enough replacement filters for one year's maintenance.
- 4) For all heating system work, including replacements, a tag shall be prominently affixed to the heating unit identifying who the customer should call for service. The tag information must have the name, address and telephone number of the service organization.

FORCED AIR DISTRIBUTION WORK

- 1) Distribution sealing work must be done prior to insulation or other sealing measures.
- 2) Supply ducts should be tested for leakage using a blower door and pressure pan or a duct blaster.
- 3) Visually inspected with a mirror and flashlight.
- 4) Seal supply ductwork in mobile home belly so that cumulative reading of all registers is 3 Pascals or less (@ CFM50).
- 5) Convert all belly-return systems to a living space return system by rerouting returns to furnace cabinet door. Assure that there is adequate return air.

REFRIGERATORS

- 1) Replace units manufactured before 1990.
- 2) Replacement refrigerators must be current Energy Star® qualified products.
- 3) Install 15 cubic foot units in households with one or two persons unless there are special conditions. Install 18 cubic foot units in households with three to five persons. Install 21 cubic foot units in households with more than five persons.
- 4) De-manufacture and properly dispose all refrigerators removed.
- 5) Offer a \$50 incentive for removal of additional functional units not being replaced.

FREEZERS

- 1) Meter freezers operating in conditioned spaces to assess replacement eligibility. Freezers operating in garages or on porches are not eligible for replacement.
- 2) Replace existing freezers that equal to or greater than 14 cubic feet, which have a metered Power Factor less than 0.75. Do not replace freezers that were manufactured during or after 1993. Properly dispose of old unit.
- 3) Document existing freezer metering information in the customer file and as required on WisWap.
- 4) Replacement freezers must be approximately equal to or less than the size of the existing freezers, based on the following guidelines:

Existing Freezer (Cubic Ft.)	Replacement Freezer (Cubic Ft.)
Any size ≥ 14	9-12.2
14.1-15	14.8 to 16.5
15.1-19	16.5
19.1-22	20.3 to 21.7

- 5) Replacement models should be chest type freezers with manual defrost.
- 6) Offer a maximum \$50 incentive for removal of additional functional units operating in conditioned spaces and not being replaced. Freezers operating in garages or on porches are not eligible for a bounty. Properly dispose of all freezers removed.

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WATER HEATER REPLACEMENT

- 1) Replace electric water heaters with natural gas units, when there is a gas line to the dwelling, no time of use is present, and existing equipment is greater than 5 years old. The replacement water heater must be rated for mobile home use (direct vent or sealed combustion), with a minimum .59 EF.
- 2) Replace electric water heaters with power vented LP gas units, when there is a gas line to the dwelling, no time of use is present, and existing equipment is greater than 5 years old, and there are four or more persons in the household. The replacement water heater must be rated for mobile home use (direct vent or sealed combustion), with a minimum .59 EF.
- 3) Removal and disposal of the old unit is required.
- 4) Sizing of replacement must consider the number of people in the household.

Note: water heaters may also be replaced based on health and safety conditions. See Health and Safety.

LIGHTING

- 1) Replace all incandescent bulbs, where feasible, with Energy Star® qualified CFLs.
- 2) Replacement CFL should be appropriate for the intended use.
- 3) Replace all halogen torchieres with fluorescent equivalent fixtures, remove and dispose of old fixture.
- 4) Increase lighting efficiencies in common areas of multi family housing.
- 5) Utilize current Energy Star® qualified products in all cases where product warrants replacement and is available (e.g., items 1–3 above, and including Exit lights).
- 6) All replacement CFLs and fixtures must be installed and inspected prior to the completion of the dwelling unit.

DOMESTIC HOT WATER TREATMENTS

- 1) Install 2.5 GPM or less showerheads and faucet aerators on every fixture.
- 2) Install R-3 pipe wrap on the first 6 feet of the hot and cold water pipes.
- 3) Reduce water heater temperature to 125 degrees.
- 4) Insulate water heaters in the existing insulation is less than R-10. Insulation installed on existing water heater tanks must be a minimum of an R-10. Mechanical fasteners and tape are required.

HEALTH AND SAFETY

Health & safety is defined as the cost of materials and labor necessary to eliminate or reduce hazards before, or as a result of the installation of weatherization materials. Current Energy Star® -qualified products must be used when available (e.g., ventilation fans, dehumidifiers, air conditioning, etc.).

Examples are:

- 1) Repair unsafe chimneys.
- 2) Vent bathroom and kitchen exhaust fans to the exterior. New and replacement fans installed must be current Energy Star® -qualified products. Unless continuous ventilation requirements require a system not yet rated.
- 3) Install properly sized mechanical ventilation when needed to assure indoor air quality, based on ZipTestPro: 62.2 calculations.
- 4) Install smoke detector.
- 5) Install carbon monoxide detectors in units where atmospherically vented appliances, including gas ranges, will remain at completion of the work, and all dwellings with attached garages.
- 6) Complete combustion safety tests on dwelling to assure safe operation of all appliances.
- 7) Assure natural gas or LP water heaters properly draft. Options may include the installation of replacement water heater. Replacement natural gas or LP water heaters must have a minimum .59

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- Ef and be rated for mobile. Replacement units must be direct vent or sealed combustion.
- 8) Replace or repair water heaters that are leaking.
- 9) Replacement electric water heaters must have a minimum .90 Ef and be rated for mobile.
- 10) Grantees may install an Energy Star qualified central or room air conditioning, based on an occupant's health.
- 11) A physician's statement is required in order to install air conditioning.
- 12) That statement should identify the specific health condition that requires air conditioning and reason why that condition requires air conditioning (e.g., inability to tolerate temperature extremes).
- 13) Grantees are encouraged, when feasible, to create a comfort zone in the home by using Energy Star® qualified room air conditioner(s).

REPAIR

Repair is defined as items necessary for the effective performance or preservation of weatherization materials. Examples are:

- 1) Repair leaking roofs.
- 2) Repair electrical systems.
- 3) Repair hot and cold water leaks
- 4) Replace deteriorated windows with deteriorated frames or sash that cannot be repaired or addressed with an insider storm window.
- 5) Replacement windows must be Energy Star® qualified windows.
- 6) Photographs should be taken of each window to be replaced. The photograph should document specifically why the window was replaced – e.g., deteriorated frames and sash.
- 7) Replace doors only in the primary heating envelope that cannot be repaired (characteristics include: rotting or holes or cracks occurring in either the door jamb or blank).
- 8) Replacement doors must either be a standard mobile home replacement door or an R-9 Energy Star qualified product.
- 9) Photographs should be taken of each door to be replaced. The photograph should document specifically why the door was replaced.
- 10) Patio doors are not an allowable measure.

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Appendix E Multi-Family (5+ units) Measures

Required Multi-Family Measures

Federally Funded and Public Benefits Funded Measures	General Policy - 5+ Unit Buildings
Attic Insulation	Insulate attics less than R-11 to an R-50 or maximum allowable and access door to R-38 or R-50. Install appropriate venting and safety devices
Floor Insulation	Insulate floors above crawlspace or unheated areas. Install a vapor barrier as appropriate. Insulate sillbox to a minimum of R-19.
Sidewall Insulation	Insulate previously un-insulated or marginally insulated sidewalls, except where brick or steel siding prohibits installation.
Heating System Note: Gas Furnaces must be replaced with <u>current</u> Energy Star® -qualified product.	For all oil heating systems: Inspect and clean chimneys, if necessary. Perform tune-up on heating system. Perform oil burner retrofit if SSE is less than 75%. Perform the following if applicable to the heating system: Introduce outside combustion air, if needed. Perform heating system control modifications such as the installation of modulating aquastat. Install zone control modifications including such things as thermostatic radiator valves or zone controls; Test to determine SSE. If SSE is below 65% after tune-up, boiler may be replaced with an Energy Star or 90-plus AFUE boiler. Other heating systems replaced in 5+ unit buildings must have a minimum cost/benefit ratio of 1.0. To determine BCR, use the BCR calculator for multi-family heating system replacement. A heating system may be replaced or have major repair performed provided that the owner contributes at the rate established by each agency.
Programmable Thermostats*	Install programmable thermostat when replacing thermostat. Follow guidelines in the Specifications and Standards.
Water Heater Replacement	Convert electric to gas where possible. Follow guidelines in the Specifications and Standards.
Duct Work	Insulate to a minimum of R-8 heat ducts that are exposed to outside conditions. Insulate duct work or boiler pipes in unheated areas.

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Air Sealing	<p>Stop major infiltration through gaps, broken glass and other large, open infiltration paths.</p> <p>Installations are:</p> <p>Replace broken glass and repair primary sash and doors as needed.</p> <p>Adjust and weatherstrip primary doors, as needed.</p> <p>Repair broken and missing plaster on exterior walls and ceiling.</p> <p>Seal bypasses around vents, chimneys, electrical wiring and wall cavities.</p> <p>Seal utility penetrations.</p> <p>Reduce heating envelope.</p>
<p>Lighting</p> <p>Note: must be replaced with <u>current</u> Energy Star® -qualified product.</p>	<p>Replace incandescent lamps with fluorescent lamps and fixture replacements including LED exit signs. Follow CFL Guidelines in the Specifications and Standards.</p>
<p>Refrigerator Replacement</p> <p>Note: must be replaced with <u>current</u> Energy Star® -qualified product.</p>	<p>Replace automatic defrosts units made before 1990. Properly dispose of old units.</p>
Domestic Hot Water Treatments	<p>Insulate water heaters and first six feet of hot and cold water line leading from water heater. Repair hot water leaks.</p> <p>Perform the following with client consent:</p> <p>Reduce water heater temperature to 125 degrees F.</p> <p>Install low flow showerhead and faucet flow restrictors.</p>
Health and Safety	<p>Eliminate hazards that pose an immediate threat to the health and safety of occupants. Follow guidelines in the Specifications and Standards.</p>
Repair	<p>Necessary repairs for the installation and preservation of weatherization materials. Follow guidelines in the Specifications and Standards.</p>

Optional To Customer Multi-Family Measures

Federally Funded and Public Benefits Funded Measures	General Policy - 5+ Unit Buildings
<p>Window Replacement</p> <p>Note: must be replaced with <u>current</u> Energy Star® -qualified product.</p>	<p>Install according to the guidelines and protocols outlined in the WI WAP Specifications and Standards.</p>
<p>Door Replacement</p> <p>Note: must be replaced with <u>current</u> Energy Star® -qualified product, if one is available.</p>	<p>New doors must be R-9 minimum, or maximum R-value commercially available. Install according to the guidelines and protocols outlined in the Specifications and Standards.</p>

As an alternative to using the Measures List, the Division allows grantees to commission a mechanical engineer (or other qualified individual as determined by the Division) to develop an energy retro-fit plan for the building. The plan must include on energy payback calculations to justify the energy conservation measures. Prior written approval from the Division required before any 5+ unit building can be weatherized using substitute payback calculations.

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All measures must be installed in accordance with the Specifications and Standards for Weatherization Measures guidance.

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Appendix F Deferral of Service

Deferral of Service Policy

The decision to defer work in a dwelling is difficult but necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and/or alternative sources of help are found. As noted in A3. 2), local grantees, which includes crews and sub-contractors, are expected to pursue reasonable options on behalf of the dwelling owner, including referrals, and to use good judgment in dealing with difficult situations. Local grantees should not defer service simply because of the presence of a hazard. Every effort should be made to identify other resources to address the identified hazards. Whenever appropriate, educational information on how to address the hazard should be shared with the occupant. An example of educational materials is EPA booklet 402-K-98-002, "Indoor Air Hazards".

- 1) A written deferral policy must be established by the local grantee. The deferral policy should outline the procedures followed when weatherization measures may not be installed in a dwelling unit. When service is deferred the owner or occupant should be given a reasonable timeframe to correct the problem. Examples of reasonable timeframes would be thirty days for housekeeping concerns or ninety for major remodeling work. In general, a deferral should be utilized under the following conditions:
 - g) Standing water, mold, friable asbestos, deteriorated lead-based paint surfaces or other hazardous materials, which cannot be addressed by the weatherization work.
 - h) Evidence of infestations of rodents, insects, and/or other vermin.
 - i) Un-vented space heater(s) that may have a harmful effect on the air quality of the home.
 - j) Unsecured pets that may prevent workers from safely completing their work.
 - k) The presence of sewage or animal feces in the home.
 - l) Improperly stored chemicals, combustible materials, or other fire hazards that present a danger to the occupants or the workers.
 - m) Maintenance or housekeeping practices that limit the access of workers to the dwelling or create an unhealthy work environment.
 - n) Major remodeling is in progress, which limits the proper completion of major weatherization measures.
 - o) HUD funding for the dwelling and at the time of completion, the unit will not meet applicable HUD Lead-Based Paint standards.
 - p) Electrical or plumbing hazards that cannot be addressed as a part of weatherization services.
 - q) Threat(s) of violence or abusive behavior to worker(s) or household member(s) during the weatherization process.
 - r) The illegal presence or use of any controlled substance in the home during the weatherization process.
 - s) Occupant has known health conditions that prohibit the installation of insulation or other weatherization materials.

The **Weatherization Assistance Program Deferral of Service Notification** form (see **Appendix E**) must be used to document and notify applicants of conditions that require the deferral of service. The applicant must receive a written notification within five working days of the decision to defer service.

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Weatherization Assistance Program: Deferral of Service Notification

Name: _____ Notification Date: _____
 Address: _____ Weatherization _____
 Building ID: _____ Agency: _____
 Inspection Date: _____ Inspector: _____

Recently your home was inspected for weatherization services. It is the policy of this agency to provide weatherization services when those services may be delivered effectively and safely, without undue hazards to our staff or our clients. Conditions were noted on _____ <date> which prevent the weatherization your home at this time. Those conditions are checked below.

- _____ Standing water, mold, friable asbestos, deteriorated lead-based paint surfaces or other hazardous materials, which cannot be addressed by the weatherization work.
- _____ Evidence of infestations of rodents, insects, and/or other vermin.
- _____ Unvented space heater(s) that may have a harmful effect on the air quality of the home.
- _____ Unsecured pets that may prevent workers from safely completing their work.
- _____ The presence of sewage or animal feces in the home.
- _____ Improperly stored chemicals, combustible materials, or other fire hazards that present a danger to the occupants or the workers.
- _____ Maintenance or housekeeping practices that limit the access of workers to the dwelling or create an unhealthy work environment.
- _____ Major remodeling is in progress, which limits the proper completion of major weatherization measures.
- _____ The home receives HUD funding and at the time of completion, the unit will not meet applicable HUD Lead-Based Paint standards.
- _____ Electrical or plumbing hazards that cannot be addressed as a part of weatherization services.
- _____ Threat(s) of violence or abusive behavior to worker(s) or household member(s) during the weatherization process.
- _____ The illegal presence or use of any controlled substance in the home during the weatherization process.
- _____ Occupant has known health conditions that prohibit the installation of insulation or other weatherization materials.
- _____ Other: _____

We would consider weatherizing your home if you are able to meet the conditions listed by: <date>.

<specific steps which must be taken>

When you have met the conditions listed above, or if you believe a mistake has been made in this determination, please contact the party listed below and we will re-inspect your home within <# of days> working days of hearing from you.

<contact name>

<contact title>

<contact information>

To assure that you have received this notice it has been sent to you by certified mail. The signature on the certified delivery receipt verifies your receipt of this notice. You may also acknowledge the receipt of this notice and an understanding of the options outlined by signing below and returning it using the enclosed envelope.

 (Print Your Name Above)

 (Sign Your Name Above)

 (Date Signed Above)

Please note that your financial eligibility for weatherization services lapses on <cert end date>. If you have not re-contacted us prior to that date, your application will be denied.

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Appendix G

Wisconsin NEAT Parameters and Protocols

- 1) Required NEAT Use: One to Four Unit Buildings.
The National Energy Audit Tool (NEAT) shall be used to select measures under the following circumstances:
 - a) Any circumstance where the auditor feels the unit does not fit into the parameters of the Required Measures List.
 - b) Any unit where boiler replacement is an option.
 - c) Where exterior foundation insulation is a potential retrofit. Typically where foundations are slabs on grade, conditioned basements with foundations having more than 30" exposed height, or where inaccessible heated crawlspaces exist.
 - d) Where window and door replacement meet the WI WAP Specifications and Standards criteria for replacement and will not be considered as a health and safety measure. Windows may be modeled as an energy conservation measure or a repair (using the itemized cost tab). Doors must be modeled as a repair.
- 2) NEAT Data Collection Requirements
NEAT selects an Energy Conservation Measure (ECM) based on a savings to investment ratio (SIR). Each ECM selected impacts on the other ECMs considered. NEAT will generate two reports 1) an Input Summary Report of all information entered; and 2) an Output Report of cost-effective energy conservation measures (ECMs) for the building envelope and HVAC system. Paper copies of both reports must be included in each building file. In order to run NEAT certain information must be gathered at the time of the energy audit or inspection. The minimum field data collected includes:
 - 3) Schematic of the building that includes elevations (including foundation exposures), orientations, window and door measurements.
 - 4) Mechanical system information that includes the type of equipment (air conditioner, water heater or heating system), type of system (forced air, space, steam or hot water boiler), fuel type, brand name, model number, and a steady-state efficiency test (SSE), where applicable.
 - 5) SSE tests should be completed on all types of boilers and oil furnaces.
 - 6) NEAT's Output Report (Manual J Section) may be used to size heating systems. Note: Oak Ridge National Laboratory recommends that initially the calculation should be verified with a second method.
 - 7) Refrigerator information that includes the brand name, model number age (if known), kWh (if metered). The information in the NEAT default database provides information on many existing models. The kWh of the replacement refrigerator may be necessary to generate a SIR.
 - 8) Existing insulation levels and R-values are required for the entire building shell (walls, attics, foundations, and the ceilings above foundation components).
 - 9) Local agencies may collect data in any format they choose as long as all of the information required to run NEAT is included in the building file.

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10) Neat Setup Parameters and Job Identifiers

The State of Wisconsin will set the default setup parameters be used in the Wisconsin NEAT audit. FY06 parameters are the same as the FY04 (rev 1) parameter definitions except as follows:

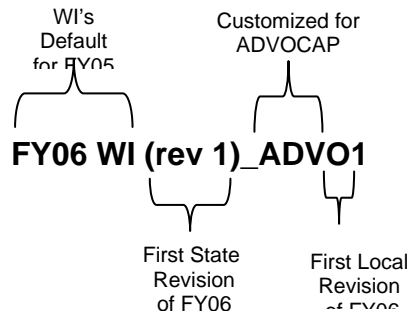
Material Costs	Change replacement boiler life to 20 years Local agencies should enter local material and labor costs consistent with WisWap cost tables, except for exterior perimeter insulation.
Fuel Costs	Natural Gas: change to 8.00 \$/Mcf Oil: change to 1.33 \$/gallon Electric: change to 0.087 \$/kWh Propane: change to 1.21 \$/gallon Wood, Coal, Kerosene: (no change)
Fuel Price Indices	(no changes)
Candidate Measures	Disable: Replace AC, High efficiency furnaces, Duct Insulation
Key Parameters	(no changes)
User Defined Insulation Types	(no changes)
Replacement Refrigerators	Local agencies should add qualified replacement units (see below)
Replacement Water Heaters	Local agencies should add qualified replacement units (see below)

Note: Local agencies will set-up local material and labor costs that correspond to values specified in WisWap cost tables for the current funding year. Local agencies may also add Energy Star labeled refrigerators and water heaters to the current database included in the audit.

Wisconsin's default setup parameters will be identified by the funding year, state abbreviation and the revision number, if applicable [Example: FY06 WI (rev 1)]. The State of Wisconsin will provide guidance on any changes to the default setup parameters at the beginning of each funding year, and as necessary during the year. Always use the most current setup parameters available. Any change to setup parameters by the State of Wisconsin or at the local level requires the creation of a new parameter set with a unique name in NEAT. A listing of each local agency's abbreviations are listed in Item 19.

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Use the convention below to assign parameter set names:



This naming signifies that the parameter set is the State of WI default for FY06 (first revision), customized with Advocap's material and labor costs and data on water heaters and refrigerators (first revision).

Note: The simplest way to create a new parameter set with minor changes is to create a copy of the existing parameter set and re-name it. See the "Data Management" supplement to the NEAT User's Manual.

Note: NEAT requires a '**Job Identifier**' for each building be entered. Use the WisWap assigned Building Identifier (BID) number as the Job Identifier number.

11) Savings to Investment Ratios and Miscellaneous Costs

Repair costs and miscellaneous measure costs may be added directly to an ECM or to the entire building. These costs must be accounted for in one or the other of the categories. Adding costs to a measure will incorporate the repair costs in the SIR of the measure. Adding the costs to the '**Itemized Cost**' tab will incorporate the repair costs in the overall SIR for the building. The box in the 'Itemized Cost' tab must be checked to enable the calculation into the overall building SIR. Local agencies are encouraged to test costs related to an ECM by adding the cost to the measure. However, the local agencies have the flexibility to add the cost in either category. (Note: health and safety costs are not subject to a SIR calculation and should not be included in either category.)

NEAT will not always test different treatments for the same measure and select the most cost-effective of the treatments. In some cases the audit will need to be run more than once, with each treatment set-up. The treatment with the higher SIR should be selected. Testing more than one treatment for the same measure is optional, except for some heating system replacements.

12) Fuel Consumption Records

NEAT has the ability to incorporate actual fuel consumption records into its analysis. When reliable data on the heating fuel consumption is available, it should be entered into NEAT. Check 'Include billing adjustment' the 'General Info' tab.

13) Except as noted in Item G.7 below, units modeled with the NEAT Audit will receive the cost-effective measures selected by NEAT.

14) Measures or Procedures Not Driven by the NEAT Audit. Wisconsin has opted not to use NEAT for several measures. The following measures should be completed on dwellings, regardless of the NEAT Output Report's selected measures.

15) Air Sealing. Wisconsin will use the Wisconsin Cost Effect Guidelines and related protocols to direct air sealing work (See Weatherization Manual, Chapter 6 and the FY06 Standards and Specifications to a review of those procedures).

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- 16) Distribution system sealing. Follow the FY06 Standards and Specifications for this measure.
- 17) Low-cost, no-cost measures including replacement furnace filters, faucet aerators and flow restrictors. Follow the FY06 Standards and Specifications for these measures.
- 18) Compact Fluorescent Lighting. Follow the FY06 Standards and Specifications for this measure.
- 19) Replacement freezers and freezer removal incentives. Follow the FY05 Standards and Specifications for this measure.
- 20) Measures that are necessary to address health and safety problems unless the measure is also an Energy Conservation Measure (ECM).
- 21) Repair measures not tied to an ECM measure or identified in 'Itemized Cost' section.
- 22) Local agencies will need to develop a work order for the building that incorporates the ECMs, health and safety measures, miscellaneous measures and includes replacement furnace filters, CFLs, and faucet aerators whenever appropriate.
- 23) With the exception of those measures listed in 6 above, complete the measures listed in the NEAT Output Report when the job has a cumulative SIR of greater than or equal to 1.0.
- 24) Replacement Refrigerators and Water Heaters.
 Many refrigerators and water heaters are listed in the default database for existing appliances. A list of water heaters meeting the State of Wisconsin's standards has been loaded into the default replacement database. Local agencies may need to enter information on their replacement refrigerators and water heaters into the respective default replacement databases.
- 25) Ducts and Infiltration
 As stated in 6 a. and b., above, the State of Wisconsin will not use NEAT to direct sealing work. Building sealing work will follow the guidelines and protocols outlined in Chapter 6 of the Weatherization Manual. Duct sealing work will follow the Specifications and Standards outlined in Appendix B of the Weatherization Manual and Energy Star procedures for duct sealing. Energy Auditors should enter a CFM50 estimate of the 'Post Infiltration Reduction/Target' and identify the 'pressure differential' at 50 Pascals into NEAT's 'Ducts and Infiltration' tab.
- 26) Heating Systems
 The State of Wisconsin must use NEAT to model replacement gas or oil boilers. Other types of heating systems replacements will be modeled when NEAT is used to model another measure (e.g. exterior foundation insulation or replacement windows). Otherwise, heating system replacements will follow the FY06 Specifications and Standards. NEAT does not provide for testing for switching between fuel oil and gas or propane. The State of Wisconsin has developed specific data entry protocols to allow for modeling more than type of boiler and for fuel switching, based on the WI WAP Specifications and Standards. Use the table that follows for the statewide default efficiency for replacement heating systems to be tested in NEAT.

Statewide FY06 Default Replacement Heating System Efficiency

		Natural Gas Or Propane	Fuel Oil
Forced Air Furnaces	Standard		83%
	High Efficiency (Energy Star)	90%	90%
Boilers	Standard	83%	83%
	High Efficiency (Energy Star)	90%	83%
Wall/Space Heaters	Standard	Actual	Actual

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In all cases, the required information on the existing system should first be entered into NEAT under **'Heating Systems'** tab. Follow the procedures below for testing heating system replacements, including those that include a fuel switch. The instructions that follow pertain mainly to the **'System Retrofit'** data entry area, which is in the lower right-hand portion of the screen (see following figure).

27) Replacement Boiler Without Fuel Switch. (WI WAP Specifications and Standards: Model all boilers for replacement that are greater than 10 years old or have a SSE of < 75%. Model all boilers for replacement with the NEAT Audit. Model both 90%+ and >80% AFUE boilers. Install the boiler with the highest SIR, if it is above 1.0.)

- Select **'Optional'** for System Retrofit Status.
- Enter the default system efficiency for a high efficiency unit from the table above.
- Enter the actual material and labor costs for the new boiler. Always model the boiler with the highest efficiency level first. Do not include additional expenses such as a chimney repair or replacement, unless the replacement requires these measures.
- When all other data entry for the job is complete in NEAT, Click **'Run'** to run the audit and evaluate the measures for the job.
- If the replacement boiler does not appear on the list of measures in NEAT's output report, a high efficiency system is not cost-effective. The boiler may not be replaced with a high efficiency unit.
- To model the lower efficiency unit, repeat steps b through e above, using the default efficiency and actual materials and labor costs for the lower efficiency unit.

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- g) Boilers that must be replaced for health and safety reasons may be tested as **'replacement mandatory'**. If the SIR is 1.0 or higher, the replacement may be completed as an energy conservation measure.
- 28) Replacement of Natural Gas, Propane, or Furnace Oil Furnace Without Fuel Switch. (WI WAP Specifications and Standards: **Natural Gas Forced Air Furnaces:** Replace if existing atmospheric unit has a SSE of 75% or less and has a life expectancy of 5 years or less. Inspect units with SSE >75%. Replacement must be Energy Star eligible. **LP Forced Air Furnaces:** Replace if existing atmospheric unit has a SSE of 80% or less and the existing unit has life expectancy of 5 years or less. Inspect units with SSE of >80%. Replacement must be Energy Star eligible. **Oil Forced Air Furnaces:** Replace if the existing unit that has a SSE of 75% or less, and a life expectancy of 5 years or less. **Space Heaters:** Replace Space heaters units greater than 10 years old. Inspect units less than 10 years old for health and safety problems).
- a) Select **'Optional'** for System Retrofit Status.
 - b) Enter the default system efficiency for the heating system from the table above.
 - c) Enter the actual material and labor costs for the new heating system. Do not include additional expenses such as a chimney repair or replacement, unless the replacement requires these measures.
 - d) When all other data entry for the job is complete in NEAT, click **'Run'** to run the audit and evaluate the measures for the job.
 - e) If the replacement heating system does not appear on the list of measures in NEAT's output report, a replacement heating system is not cost-effective and may not be replaced.
 - f) Heating systems that must be replaced for health and safety reasons may be tested as **'replacement mandatory'**. If the SIR is 1.0 or higher, the replacement may be completed as an energy conservation measure. Follow steps b. through d. above.
 - g) If the replacement heating system is installed as an energy conservation measure, complete the measures on the NEAT Output Report. If the heating system is installed as a health and safety measure, complete the measures based on WI's Required Measures List.
- 29) Fuel Switching From Oil To Gas Heating Systems. (WI WAP Specifications and Standards. Oil furnaces may be switched to gas, if there is gas present in the unit).

NEAT does not consider fuel switching for heating systems. Fuel switching may only be tested by running the audit twice and documenting the SIR for each system. The first run documents the SIR of heating system replacement without a fuel switch. In the second run, a separate calculation is needed to account for the difference in fuel cost for the fuel switch. Install the heating system with the highest SIR if it is above 1.0. The Fuel Switch entry protocol is as follows.

- a) Follow the appropriate procedure above for testing for replacement of an oil system without fuel switching. If the replacement heating system does not come up as a measure in the NEAT output report, go back the **'System Retrofit Status'** and select **'Replacement Mandatory'**.
- b) Click **'Run'** and print the NEAT output report for the job file to document the SIR of replacement without a fuel switch.
- c) Change the **'Heating System Fuel'** to **'Natural Gas'** or **'Propane'** (depending on the proposed replacement fuel), and change the **'System Efficiency'** under **'System Retrofit'** to that of a replacement unit.
- d) Click **'Run'**. If **'Status'** of the system retrofit is set to **'Optional'** and heating system replacement does not come up as a measure, select **'Replacement Mandatory'**, and click **'Run'** once more.

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- e) Print the NEAT output report for the job file. If the proposed replacement fuel is **natural gas**, multiply the SIR from the second run by **1.08** to account for the fuel cost difference between oil and natural gas. Write the adjusted SIR on the report printout for the second run. If the proposed replacement fuel is **propane**, multiply the SIR from the second run by **0.58** to account for the fuel cost difference between oil and propane. Write the adjusted SIR on the report printout for the second run.
- f) Compare the SIR from the first run and the adjusted SIR from the second run. Install the system with the higher SIR if it is above 1.0. Install other NEAT-evaluated measures according to the output report for the selected replacement heating system fuel.
- g) Heating systems that must be replaced for health and safety reasons may be tested as '**replacement mandatory**'. Follow steps b. through f. above. If the SIR is 1.0 or higher, the replacement may be completed as an energy conservation measure.
- h) If the replacement heating system is installed as an energy conservation measure, complete the measures on the NEAT Output Report. If the heating system is installed as a health and safety measure complete the measures based on WI's Required Measures List.

30) Health and Safety: Electric and Wood Heating System Replacement

If a heating system does not meet the WI WAP Specifications and Standards replacement protocols, but must be replaced for health and safety reasons, you may use NEAT to establish if the replacement may be classified as a Energy Conservation Measure (ECM). Replacements with a SIR of 1.0 or greater may be considered an ECM. Replacements with an SIR of less than 1.0 will be considered a health and safety measure. There are exceptions. Wood heating systems cannot be tested with NEAT and replacement systems must be a health and safety measure. The replacement of electrical heating systems cannot tested with NEAT. Generally, electric to electric heating system replacement is not allowed. The State of Wisconsin has developed procedure for testing fuel switching of electric systems to another fuel. The procedures are outlined in the Weatherization Assistance Manual.

31) Foundation Insulation

NEAT will model only interior foundation wall insulation, including the box sill area. Wisconsin's default parameters are set-up to model interior treatments of basements and crawlspaces using fiberglass or rigid board insulation. Two-part foam may also be modeled by changing the R-value and adding any additional costs in '**Foundation**' tab. To test a for exterior perimeter foundation insulation, Wisconsin must use the '**Itemized Cost**' tab of NEAT. Specific measures may be modeled to generate a SIR in this tab by including the energy saving projection of the measure. The costs and savings for insulating slab-on-grade foundations differ from insulating crawlspace foundation walls. Slab-on-grade calculations have been developed assuming that the insulation depth will be approximately six inches below grade and 3 inches above grade. Slab-on-grade calculations are in lineal feet. Exterior foundation wall insulation calculations are in square footage. The instructions for testing these measures are handled separately.

- 32) Slab-On-Grade Foundations (Note: WI WAP Specifications and Standards: 1) Insulate all accessible slab-on-grade foundations with R-5 foam board with a durable weather resistant coating. Insulate to a depth of 6 inches below grade. 4)... all exterior foundation insulation must meet 1.0 SIR...)

Use the following procedure to model exterior perimeter insulation for slab-on-grade foundations in NEAT:

- (a) Click on the 'Itemized Costs' tab in the 'NEAT Building Characterization and Analysis' screen.
- (b) For 'Description', enter 'Slab exterior perimeter insulation'.

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-
- (c) **Multiply the total lineal feet of foundation perimeter to be insulated by \$5.71 per foot** (Note: this figure is subject to periodic updating). Enter this value for '**Cost**'.
 - (d) Check the box for '**Include in SIR?**'.
 - (e) For 'Material', enter 'R-5 rigid board'.
 - (f) Multiply the total lineal feet of foundation perimeter to be insulated by 0.041. Divide this value by the system efficiency of the primary heating system, and enter the result for '**Energy Savings**' (Note: the system efficiency of the heating system is found in the '**Heating Systems**' tab). If the heating system will be replaced, the system efficiency of the *replacement* system should be used.
 - (g) Enter 20 for '**Life**'.
 - (h) Select the fuel used by the primary heating system for '**Fuel Saved**'.
 - (i) You may optionally enter additional details under '**Comment**'.

Slab-on-Grade Example:

A building with 125 lineal feet of exposed slab-on-grade foundation is to be evaluated. The building has an existing natural gas forced air furnace that will be replaced with a high efficiency unit with an AFUE of 92 percent.

Cost: 125 lineal feet x \$5.71 = \$713.75

Energy Savings: 125 lineal feet x 0.041(Mbtu per lineal foot)/0.92 (AFUE) = 5.57 Mbtu.

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The NEAT data entry screen will look as follows:

33) Exterior Crawlspace Perimeter Insulation

(Note: WI WAP Specifications and Standards: 2) Insulate exterior walls of inaccessible heated crawlspaces with R-5 foam board with a durable weather resistant coating. 3) Insulate to a depth of 6 inches below grade. 4)... all exterior foundation insulation must meet 1.0 SIR...). Use the following procedure to model exterior perimeter insulation for heated crawlspace foundations in NEAT:

- 34) Click on the 'Itemized Costs' tab in the NEAT Building Characterization and Analysis screen.
- 35) For 'Description', enter 'Exterior foundation insulation'.
- 36) Multiply the total square feet of foundation to be insulated by \$5.71 (Note: this figure is subject to periodic updating). Enter this value for 'Cost'.
- 37) Check the box for 'Include in SIR?'.
- 38) For 'Material', enter 'R-5 rigid board'.
- 39) Multiply the total square feet of foundation to be insulated by 0.022. Divide this value by the system efficiency of the primary heating system, and enter the result for 'Energy Savings'. Note: the system efficiency of the heating system is found in the 'Heating Systems' tab. If the heating system will be replaced, the system efficiency of the replacement system should be used.
- 40) Enter 20 for 'Life'.
- 41) Select the fuel used by the primary heating system for 'Fuel Saved'.
- 42) You may optionally enter additional details under 'Comment'.

Crawlspace Example:

A building with 125 lineal feet of exposed crawlspace foundation is to be evaluated. Thirty inches above grade and 6 inches below grade will be insulated. The building has an existing natural gas forced air furnace that will be replaced with a high efficiency unit with an AFUE of 92 percent.

Cost: $375 \times \$5.71 = \2141

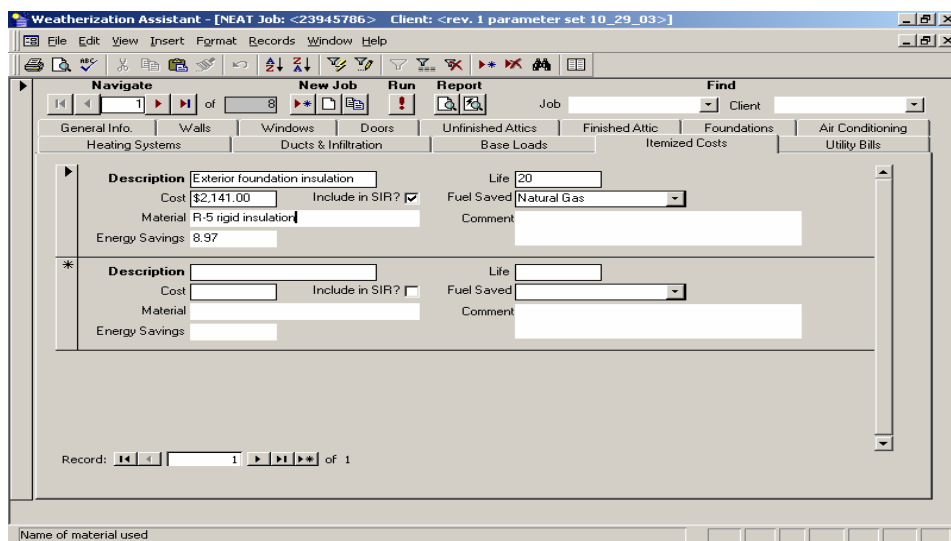
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Square footage: 125 lineal feet x (3.0) total insulation width = 375 square feet

Energy Savings: 375 x 0.022 (Mbtu per square foot)/ 0.92 = 8.97 Mbtu.

The NEAT data entry screen will look as follows:

43) Minimum Computer Specifications



Energy auditors or other personnel will need access to equipment that meets the following specifications in order to run NEAT:

- Win 95, 98, NT4.0, or Win2000.
- IBM Compatible, w/ a minimum of 32-Mega-bites of free random access memory (RAM), 15 MG of hard disk storage.
- Monitor and graphics card should be able to produce display of 800 x 600 pixels

NEAT Contacts

Question or Issue	Contact	E-mail	Telephone
Problems with the individual computer, local network, or printer.	Check with your local computer services personal.		
Wisconsin policy on NEAT use or WI Default Set-ups	Division of Energy, Energy Assistance Help Desk	Heat@doa.state.wi.us or spigg@ecw.org	(608) 267-3680
Compatibility problems with software.	Mike Gettings, Oak Ridge National Laboratory (ORNL)	gettingsmb@ornl.gov	(865)574-4506
Energy savings calculations and engineering	Mike Gettings, ORNL	gettingsmb@ornl.gov or spigg@ecw.org	(865)574-4506

44) Agency Abbreviations.

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As noted earlier, in Item 3., each local agency must save the WI Parameters with their local information using an abbreviation. Listed below are the local agency abbreviations assigned by the State of Wisconsin for the Weatherization Assistance Program

Advocap	ADVO	Weatherization Services, Outagamie County	OUTG
Ashland County Housing Authority	ASHL	Partners for Community Development	PART'
CAP Services	CAPS	Project HOME	PRHM
Central WI CAA	CENT	Racine Kenosha CAP	RACN'
Couleecap	COUL	RockWal CAP	ROCK
Hartford Housing	HART	City of Superior	SUPR
Indianhead CAA	INHD	Southwest CAP	SWCP
LaCasa	LCSA	Western Dairyland EOC	WDRY
North Central CAP	NCNT	WestCAP	WEST
NEWCAP	NEWC	Women's Employment Project	WOME
OIC-GM	OIC-GM		

45) Engineering and Calculations Background

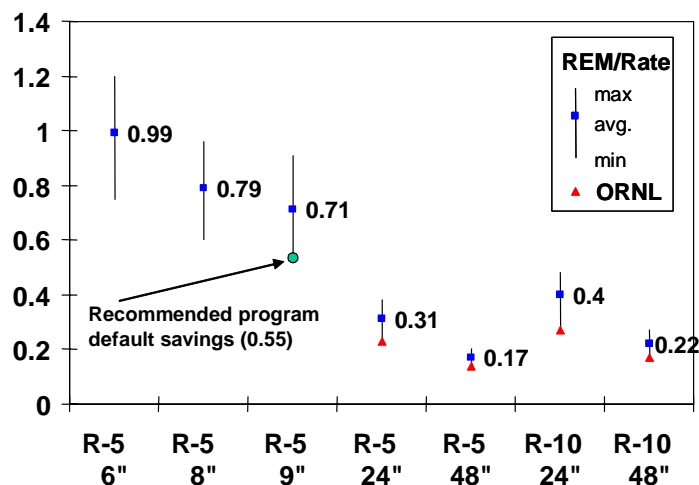
As noted in A.3, Wisconsin has opted to establish a default cost table for statewide application of the NEAT Audit. Other audit parameters have been customized as follows:

Materials Cost	Includes an average or median cost of local agencies' materials and labor costs as default. The local agency may not adjust this default.
Fuel Cost	Reflects Wisconsin's specific average fuel prices.
Fuel Escalation	Reflects the most current Fuel Escalation Rates from the annual supplement to NIST Handbook 135.
Key Parameters	Includes the real discount rate per the most recent annual supplement to NIST Handbook 135. Wisconsin modified the efficiency of replacement furnaces and boilers and the R-value of foundation insulation. The remaining parameters are NEAT defaults.
Thermostatic Set Point	The assumed thermostat setpoint is set at 68F during the heating season and 78F during the cooling season.
User Defined Insulation Types	Insulation alternatives for ceilings and walls are cellulose, blown fiberglass and fiberglass batts.
Candidate Measures: The following measures have been disabled:	
Storm windows	Tune-up AC
Window sealing	Thermal vent dampers
Window film	Flame retention oil burners
Sun screens	Electronic vent dampers/IIDs combined
Evaporative coolers	Intermittent ignition devices (IID)
Window shading	Lighting retrofits
Heat Pumps	Air Conditioning

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- 46) Slab-on-Grade Foundation Insulation Procedures and Calculations. As indicated in A.10, NEAT will not test exterior foundation insulation in the **'Foundation'** tab. Scott Pigg of the Energy Center of Wisconsin completed extensive calculations to incorporate exterior perimeter as an application tested under the Itemized Cost tab. The analysis and calculation for slab-on-grade applications follows:
- 47) Approach: Used REM/Rate 9.12 to investigate savings from slab perimeter insulation of various R levels and depths.
- 48) Houses for this analysis were from the 1999 ECW Residential Characterization Study. Examined 20 homes with at least part slab foundations. Six of the homes were low-income.
- 49) Modeled homes using Madison weather, which is close to population weighted average for the state.
- 50) Examined difference in heating load between uninsulated perimeter, and R-5 insulation with 6", 8", 9", 24", and 48" depth, and R-10 insulation with 24" and 48" depth, with R-5, 9" being the primary weatherization measure of interest.
- 51) Compared REM/Rate results with ORNL methods in "Builder's Foundation Handbook" (ORNL/CON-295).
- 52) The ORNL report provides methods to calculate savings for 24" and 48" of R-5 and R-10 perimeter insulation, but does not address the shallower depth specified by the program. Also, the ORNL calculations presume top of slab is 8 inches above grade; REM/Rate models slabs as on-grade.
- 53) **Results.** The REM/RATE estimates of savings tend to track higher than the ORNL estimates where both are available. In fact the ORNL estimates track the minimum REM/Rate value fairly closely. The ORNL figures are presumably more accurate, since they are based on explicit foundation modeling. However, ORNL savings are not available for the typical 9" insulation depth used by the program.
- 54) **Recommendation.** Use the approximate minimum REM/Rate value for R-5, 9" as the default heating load savings value (0.55 therms per square foot, or 0.055 MBtu/sf). Heating load savings will be converted to heating fuel consumption savings by dividing 0.055 Mbtu/lf by the heating system

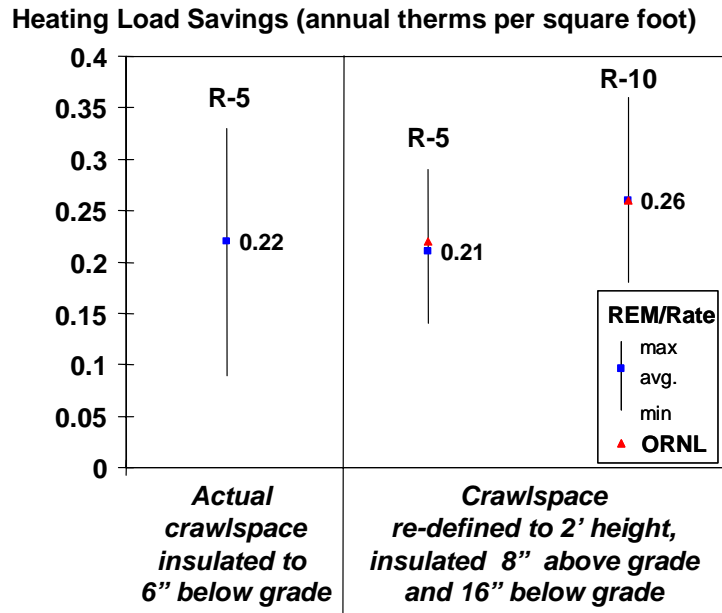
Heating Load Savings (annual therms/sf)



efficiency (assuming 9" of insulation coverage the factor becomes .041 Mbtus per linear feet. This is further translated into cost savings by specifying the heating fuel, which NEAT then uses to determine the life cycle cost savings based on the default fuel cost, fuel escalation rate, and discount rate. The default cost of the measure is \$5.71 per square foot, based on the median cost of this measure reported to date in FY04. The life of the measure should be set at 20 years, which is the assumption

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used for other comparable insulation measures. The cost of this measure is subject to periodic



change, based on current available statewide average or median costs.

- 55) Enclosed Crawlspace Exterior Perimeter Insulation Procedures and Calculations. As indicated in A.10, NEAT will not test for more interior foundation insulation. Scott Pigg of the Energy Center of Wisconsin completed extensive calculations to incorporate exterior perimeter insulation as an application tested under the Itemized Cost tab. The analysis and calculation for crawlspace exterior perimeter applications follows
 - a) Approach: Used REM/Rate 9.12 to investigate savings from insulating enclosed crawlspaces.
 - b) Houses for this analysis were from the 1999 ECW Residential Characterization Study. Examined 10 homes with enclosed crawlspaces. Six of the homes were low-income. Crawlspace height ranged from 2 to 4.5 feet, with a median of 3.5 feet. Floors above the crawlspaces were modeled as uninsulated.
 - c) Modeled homes using Madison weather, which is close to population weighted average for the state.
 - d) Examined difference in heating load between uninsulated crawlspace walls, and R-5 insulation to six inches below grade.
 - e) Compared REM/Rate results with ORNL methods in "Builder's Foundation Handbook" (ORNL/CON-295). To match ORNL definitions, re-defined crawlspaces with 2-foot height (8 inches above grade and 16 inches below grade).
 - f) Results. When analyzed in comparable terms to the ORNL configuration, the REM/Rate and ORNL results match closely (see figure below).
 - g) Recommendation. Use 0.22 therms per square foot (0.022 Mbtu/sf) as the default savings for exterior R-5 insulation for enclosed crawlspaces. Heating load savings will be converted to heating fuel consumption savings by dividing 0.022 Mbtu/lf by the heating system efficiency. This is further translated into cost savings by specifying the heating fuel, which NEAT then uses to determine the life cycle cost savings based on the default fuel cost, fuel escalation rate, and discount rate. The default cost of the measure is \$5.71 per square foot, based on the median cost

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of this measure reported to date in FY04. The life of the measure should be set at 20 years, which is the assumption used for other comparable insulation measures.